

# ROMAN CRETE

NEW PERSPECTIVES



*Edited by*

Jane E. Francis and Anna Kouremenos

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Last but not least, we would like to dedicate this volume to the memory of Ian F. Sanders, who was the first scholar to tackle the subject of Roman Crete.



# ABBREVIATIONS

Abbreviations for ancient authors and texts are from *The Oxford Classical Dictionary*.

|            |                                                                                                                                                                                                                                                                 |
|------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ABSA       | <i>Annual of the British School at Athens.</i>                                                                                                                                                                                                                  |
| AE         | <i>L'année épigraphique.</i>                                                                                                                                                                                                                                    |
| AJA        | <i>American Journal of Archaeology.</i>                                                                                                                                                                                                                         |
| AR         | <i>Archaeological Reports.</i>                                                                                                                                                                                                                                  |
| ASAtene    | <i>Annuario della Scuola archeologica di Atene e delle missioni italiana in Oriente.</i>                                                                                                                                                                        |
| Atlante I  | Carandini, A. (ed.) (1981) <i>Atlante delle forme ceramiche, I. Ceramica fine romana nel Bacino mediterraneo (medio e tardo impero)</i> , <i>Enciclopedia dell'arte antica, classica e orientale</i> . Rome.                                                    |
| BAR        | British Archaeological Reports.                                                                                                                                                                                                                                 |
| BCH        | <i>Bulletin de correspondance hellénique.</i>                                                                                                                                                                                                                   |
| CIL        | <i>Corpus inscriptionum latinarum.</i>                                                                                                                                                                                                                          |
| Conspectus | Ettlinger, E., Hedinger, B., Hoffmann, B., Kenrick, P. M., Pucci, G., Roth-Rubi, K., Schneider, G., von Schnurbein, S., Wells, C. M. and Zabehlicky-Scheffeneegger, S. (eds) (2000) <i>Conspectus formarum terrae sigillatae italico modo confectae</i> . Bonn. |
| CP         | <i>Classical Philology.</i>                                                                                                                                                                                                                                     |
| IC         | Guarducci, M. (1935–1950) <i>Inscriptiones Creticae I–IV</i> . Rome.                                                                                                                                                                                            |
| IJO        | Noy, D., Panayotov, A. and Bloedhorn, H. (eds) (2004) <i>Inscriptiones Judaicae Orientis I: Eastern Europe</i> . Tübingen.                                                                                                                                      |
| JdI        | <i>Jahrbuch des Deutschen Archäologischen Instituts.</i>                                                                                                                                                                                                        |
| JFA        | <i>Journal of Field Archaeology.</i>                                                                                                                                                                                                                            |
| JHS        | <i>Journal of Hellenic Studies.</i>                                                                                                                                                                                                                             |
| JMA        | <i>Journal of Mediterranean</i>                                                                                                                                                                                                                                 |

|                 |                                                                                                                                                                                          |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <i>JRA</i>      | <i>Archaeology.</i>                                                                                                                                                                      |
| <i>JRS</i>      | <i>Journal of Roman Archaeology.</i>                                                                                                                                                     |
| <i>LIMC</i>     | <i>Journal of Roman Studies.</i><br>Kahil, L. (ed.) (1981–2009) <i>Lexicon<br/>Iconographicum Mythologiae<br/>Classicae</i> . Zurich.                                                    |
| <i>MAAR</i>     | <i>Memoirs of the American Academy<br/>in Rome.</i>                                                                                                                                      |
| <i>MdI</i>      | <i>Mitteilungen des Deutschen<br/>Archäologischen Instituts.</i>                                                                                                                         |
| <i>OC</i>       | Oxé, A. and Comfort, H. (1968)<br><i>Corpus Vasorum Arretinorum: A<br/>Catalogue of the Signatures, Shapes<br/>and Chronology of Italian Sigillata.</i><br>Bonn.                         |
| <i>OCK</i>      | Oxé, A., Comfort, H. and Kenrick,<br>P. (2000) <i>Corpus Vasorum<br/>Arretinorum: A Catalogue of the<br/>Signatures, Shapes and Chronology<br/>of Italian Sigillata</i> (2nd edn). Bonn. |
| <i>ÖJh</i>      | <i>Jahreshefte des Österreichischen<br/>archäologischen Instituts in Wien.</i>                                                                                                           |
| <i>OJA</i>      | <i>Oxford Journal of Archaeology.</i>                                                                                                                                                    |
| <i>RCRFActa</i> | <i>Rei Cretariae Romanae Fautores<br/>Acta.</i>                                                                                                                                          |
| <i>RE</i>       | Cancik, H. and Schneider, H. (eds)<br>(1999) <i>Der Neue Pauly.</i><br><i>Enzyklopädie der Antike, Band 6</i><br>(IUL-LEE). Stuttgart.                                                   |
| <i>SEG</i>      | Roussel, P., Salač, A., Tod, M. N.<br>and Ziebarth, E. (1920–)<br><i>Supplementum epigraphicum<br/>graecum</i> . Amsterdam.                                                              |
| <i>TAPA</i>     | <i>Transactions of the American<br/>Philological Association.</i>                                                                                                                        |
| <i>ZPE</i>      | <i>Zeitschrift für Papyrologie und<br/>Epigraphik.</i>                                                                                                                                   |

## Foreword

*Hugh Sackett*

A wide range of interests in Roman studies and an impressive variety of topics are brought together here for the first time in this remarkable collection of papers, all resulting from individual research in Crete and its international connections, or 'networks'. This development, the gathering of different lines of independent research into various features of the island, is now presented as a unit and amounts to a general – and impressive – upgrading of the recorded history of Crete in the Roman period.

The contrast with the general situation which prevailed almost 50 years ago when I was asked to 'clear the way' for the subsequent full excavation of the prestigious Minoan 'Unexplored Mansion' could hardly be more striking. That fine building was built adjacent to the monumental 'Little Palace' and both were directly linked by the 'Royal Road' to the north side of the Palace of Minos. Sir Arthur Evans had peeked into and knew the extraordinary value of this site.

To put it positively, although I only had previous experience with Minoan and Classical ceramics (and stratigraphy), for this new project I was privileged to receive and enjoy the advice and assistance of the rare if not *sole* true Romanist available at that time – namely John Hayes. He was not only a rare expert in the field of Roman ceramics, but a generous and consistent visitor, excited by all the new finds as they came up: patient with a novice with no post-4th century BC expertise – e.g., in quickly separating out and distinguishing all those glossy 'red sherds' (Cypriot? Eastern Sigillata B? Çandarlı? North African? ...) and as sure in producing a date as if they belonged to a Caesar! For a wider spread of parallels, I was also able to consult J. A. Riley and his colleagues (of Berenice).

While this was a full, rich, continuous and privileged sequence, *now* local enthusiasm is branching out so much more widely all over Crete and finding direct connections with other impressive centres of Roman culture and tracing their interconnections, which even 'outstrip' those of Knossos.

All the more exciting to be able to share here in these new, wider

discoveries, and in the publication of a broad range of comparable sequences throughout the Megalonisi which is Crete.

## Introduction

*Jane E. Francis*

This volume has its origins in the increased research and publication of the history and material culture of the island of Crete in the Roman period. During the last three decades, intensive excavations at sites with substantial Roman phases are providing new data about Crete's urban landscape, while survey projects across the island offer new understandings of rural contexts. Research focused on particular artefact classes, especially ceramics, but also domestic and civic architecture, water systems, and agricultural production, offers a comparative basis for assessing Cretan evidence against that from other parts of the Roman world. This activity, in turn, now allows scholars working on Crete to become more involved in wider issues of interpreting the Roman world and for those outside the island to use its data in their own assessments of the Roman provinces.

The collection of articles in this volume was instigated by a panel on *Roman Crete* presented at the *Roman Archaeology Conference* in Frankfurt, Germany in March 2012. This panel, comprising six papers, had several aims, the first of which was to bring greater attention to the Roman period on Crete, which has long been overshadowed by the island's Minoan past. The Roman period, by contrast, has not received significant attention and is little known, even to scholars of the eastern Roman provinces. Despite this, the arrival of the Romans to Crete and the incorporation of the island into the double province of *Creta et Cyrene* remains an important event, one that is not overstated by Chaniotis' statement, cited by Kouremenos in the *RAC Roman Crete* panel abstract, that the incorporation of the island into the Roman Empire was 'the most significant turning point in the history of Crete since the destruction of the Minoan palaces.' (Chaniotis 2008, 83; Kouremenos 2012). A second goal was to identify how the data from Crete could contribute to the current debates about the Roman world, especially in scholarship on the provinces and their relationships with Rome (e.g., Forsén and Salmeri 2008; Sweetman 2011a). A further aim was to bring together scholars working on disparate material and in different parts of Crete not only to disseminate results but also to

discuss strategies for future research.

The current volume comprises a selected number of papers from the RAC panel, to which are added seven other articles. This total represents a cross-section of the variety of Cretan material evidence, history, and interpretations available to date, although the subject is undeniably larger than can be contained in a single collection.

### **The historiography of Roman Crete**

Ancient texts confirm that the island of Crete was ever vibrant in the minds of the Romans. It was the source of agricultural abundance like *passum* wine and medicinal herbs, and accounts of pirates whose existence provided the pretext for the Roman invasion in the 1st century BC. Its Minoan past, awash in tales of the Minotaur, Knossos, and heroic actions, continued to resonate well into late antiquity. The story of the Roman invasions and battle for the island in the 1st century BC between Pompey and Metellus, later named Creticus, are detailed in the accounts of authors like Livy and Plutarch, even if the precise dates for the creation of the administrative province of *Creta et Cyrene* remain uncertain. The island's location part way between North Africa and Greece and part way along the trade routes from the eastern Mediterranean to the west ensured its ongoing prominence in travel and maritime trade. In later periods, the standing remains of the island were of some interest to scholars and travellers: Onorio Belli, in the 16th century, investigated the theatres of Roman Crete, while in the Venetian period accounts of Captain Spratt and Buondelmonte described landscapes and monuments. To scholars of the 20th century, however, Crete meant the Minoans, especially after Evans' discovery in 1900 of the Palace at Knossos and subsequent intensive excavation and study of Minoan remains by scholars like Bosanquet, Seager, Hall, Halbherr, and Hawes. The lack of interest in the later periods is emphasized by Evans' destruction of the Roman levels at the Unexplored Mansion and the so-called Villa Dionysos in order to reach the Minoan remains below (Sackett 1992; Kouremenos, forthcoming). This concentration on the Minoan Bronze Age marginalized the later periods to a certain extent, although Roman studies have been more fortunate than others; for instance, data has only recently been accumulating for the Classical period on Crete at sites like Eleutherna (Stampolidis 2004; Themelis 2009), Kato Syme, Afrati (Erickson 2002), and Priniatikos Pyrgos (Erickson 2010). An exception has been the excavations at Gortyn, which began in 1884 and still continue

today, under the auspices of the Scuola Archeologica Italiana di Atene and now with the participation of teams from multiple Italian universities. Sporadic research occurred at other sites as well, but results were not conducive to a broader understanding of Roman Crete. Research at Knossos, mostly rescue excavations around the Minoan palace by the British School at Athens, revealed fragments of the Roman colony, including the so-called Villa Dionysos, excavated in 1935, Roman tombs, and a Byzantine basilica. Parts of Aptera and the Sanctuary of Diktynna in west Crete were investigated by German scholars during the occupation of the island in World War II (Matz 1951), while brief excavations were undertaken by an American team at Tarrha in 1959 (Weinberg 1960). The ongoing excavations at Eleutherna by the University of Crete have, since 1985, revealed parts of a basilica, two Roman houses, and more (Themelis 2000; Stampolidis 2004; Themelis 2009). Other Roman sites were also subject to brief excavations and yielded disparate, unconnected scraps of archaeological information, including, for example, Lissos (Niniou-Kindeli 1990), Tsoutsouras (Marinatos 1934–1935), Tholos (Haggis 1996), Makrygialos (Papadakis 1986), and Kouphonisi/Leuke (Papadakis 1983).

Individual artefact classes also began to be studied, based on available evidence. The late 19th century saw Svoronos' publication of the island's numismatic evidence and history (1890), while the inscriptions of Crete followed in the early 20th century with the efforts of Margherita Guarducci and Federico Halbherr producing the monumental four volumes of the *Inscriptiones Creticae*. The study of Roman Crete has indirectly benefitted from generations of intrepid archaeologists whose focus was primarily the Minoan period. Scholars like Richard Seager, John Pendlebury, Gerald Cadogan, Peter Warren, and Sinclair Hood were looking for Minoan remains, but often found and recorded Roman sites and artefacts. One can, for instance, find Roman entries in Pendlebury's *The Archaeology of Crete: An Introduction* (1939) and Costas Davaras' *Guide to Cretan Antiquities* (1976). Yet this data was not systematically collected or analyzed, and knowledge about the history and archaeological record of Roman Crete remained disparate, with the period seemingly destined to remain the poor cousin of the island's more 'exotic' Minoan past.

This situation changed in the 1970s when a young scholar named Ian Sanders undertook an island-wide, methodical survey of Roman Crete, with a focus on its sites and visible remains. This research,

which was completed shortly before Sanders' premature illness and death, was submitted posthumously to the University of Oxford for his D.Phil. Published in 1982 as *Roman Crete: An Archaeological Survey and Gazetteer of late Hellenistic, Roman, and early Byzantine Crete*, the importance of this research remains considerable, even more than three decades later, and it has become the point of departure for everyone working in this field. Sanders built upon the available published data for *Roman Crete*, but augmented it considerably through his fieldwork, which ultimately identified 429 sites. He also included observations about artefacts on the ground and those available in local museums. This was the first time that Roman evidence was brought together with the goal of providing a comprehensive interpretation of Roman Crete.

Sanders organized this research into eight chapters, beginning with the historical background for the Roman conquest of the island. The second chapter examines and analyzes settlement patterns, with the island divided into eight geographical sectors from east to west. The sites under discussion are matched with their ancient names, where possible, and changes between coastal and inland, lowland and upland sites were correlated to historical events specific to their regions. Sanders also tried to understand the natural advantages of these areas and how one site might relate to its neighbour. The third chapter, on the economy of Roman Crete, explores evidence for the agricultural produce and other commodities available on Crete and how they were exploited both on and off the island. Sanders then delved into religion in Roman Crete, starting with a section on pagan worship in which he discussed local Cretan deities, like Zeus Cretagenes and Diktynna, ritual inscriptions, and the remains of sanctuaries and small shrines. He then turned to burial customs and outlined the types of tombs identified on Crete. The final section in this chapter investigates evidence for Judaism and Christianity on the island. [Chapter five](#) examines the art produced in Roman Crete and includes artefact types like carved sarcophagi, statues of both historical and mythological figures, and the large corpus of mosaics, discussed with reference to their findspots. The next chapter presents the architecture of the island, by type and then by site. This is a particularly disparate group of structures and represents well the vagaries of ancient preservation and modern investigations: theatres and amphitheatres, public buildings, temples and sanctuaries, *nymphaea*, cisterns, and the few private villas known at the time. Christian basilicas on Crete are addressed in [chapter seven](#), a subject that provides a considerable



body of evidence. The last chapter contains Sanders' conclusions, which summarize Crete chronologically from the late-Hellenistic through the early Byzantine periods.

The impact of Sanders' research became immediately apparent in a number of ways. First, he made it clear that Crete could take its place alongside other Roman provinces as an area worthy of in-depth, long-term research, and that the island can contribute to issues relevant to the Roman world in general. Second, his research has inspired generations of scholars to focus on the Roman period on Crete, a result that has elicited much positive and important scholarship. He also established a site-based interpretation that is still followed today and to which current trends in survey archaeology owe much. And finally, Sanders broadened the academic view about Crete and shifted emphasis, or really created a new stream of scholarship, away from the Minoans to later periods in the island's history. The further legacy of Sanders' research can also be seen in the many ways in which scholarship on Roman Crete now contributes to broader debates in Roman studies, such as Romanization/acculturation/globalization, long-distance trade and distribution, the effects of climate change on ancient sites, and definitions of cultural identity.

The tangible influence of *Roman Crete* can today be felt in two main thrusts of research. First, the retrieval of primary data from sites on the island and material in museums has been the focus of ever-increasing numbers of excavations, surveys, and individual analyses. Sites with substantial (or primarily) Roman phases are being thoroughly investigated and provide abundant material both architectural and artefactual for comparative analyses among sites. Sanders' contention that 'apart from the remains at Gortyn there is very little Roman architecture still visible in Crete' (Sanders 1982, 57) continues to be disproved by excavations at Knossos, Aptera, Kissamos, Itanos, Eleutherna, and, naturally, Gortyn, where individual structures like the theatre, the Agora, the amphitheatre, and the so-called Praetorium have received special attention. Added to the sheer number of buildings is increased information about building materials and their sources, layout, decor, and building types and functions; domestic structures have received particular attention in recent years. For the study of Roman pottery, the publications from Gortyn (e.g., Di Vita and Martin 1997), Eleutherna (Vogt 2000; Yangaki 2005), Knossos (Hayes 1983; Sackett 1992; Forster 2009), and Hierapytna (Gallimore 2011) are particularly informative; research on the lamps

from the Idaean Cave (Sapouna 1998) has spurred interest in both Cretan and imported lamps. New examples of inscriptions (e.g., Baldwin Bowsky 2006; Baldwin Bowsky and Niniou-Kindeli 2006; Chaniotis and Cadogan 2010) and writing on other objects, like inscribed *instrumenta domestica* (e.g., Chaniotis 2005; Baldwin Bowsky 2010) and gold lamellae (Tzifopoulos 2010) continue to be studied and published, thus augmenting the initial collection of Halbherr and Guarducci. The large amounts of marble sculpture excavated and studied from Gortyn demonstrate the diversity of the island's sculpture workshops (Romeo and Portale 1998), and this research has now been joined by other contributions on Roman portraits (Lagogianni-Georgakarakos 2002), grave monuments (Sporn 2012), and sculpture workshops on the island (Karanastasi 2012). The vast number of mosaics preserved from both domestic and religious contexts across the island has recently been published (Sweetman 2013), and research on the mosaics from the Kissamos area seems to confirm an island specialization in this art form (Markoulaki 1990; Ioannidou-Karetsou 2008). Archaeological survey also continues unabated, and many more sites with Roman phases than those documented by Sanders have now been identified (most recently, Gkiasta 2008; Watrous *et al.* 2012). Such research continues to challenge and refine definitions of domestic structures, from farmsteads to fieldhouses to towns, villages, hamlets, and estate centres, and much more is now known about the types of sites that existed on Crete, their chronologies, their functions, and their activities.

Second, this data collected across the island is now sufficiently substantial to be used for comparative or synthetic analyses, either between sites on the island or with other parts of the Roman world. G. W. M. Harrison's *The Romans and Crete* (1993) is a good example of an early, post-Sanders examination of the Cretan rural and urban economies set against the 'norms' of the Roman Empire and other provinces. Research on Cretan wine production and trade has not only widened recognition of Cretan amphorae but provided evidence for extensive and long-distance trade routes between Crete and other Roman centres (e.g., Marangou-Lerat 1995). Ongoing work on Cretan amphorae continues to refine amphora typologies and distribution patterns, especially for the late-antique period (e.g., Portale and Romeo 2001; Yangaki 2007). Evidence for other types of land use known through ancient written sources to have contributed to the Cretan economy have also been investigated: apiculture (Francis 2006; 2012), fish farming (Mylona 2003; Francis 2010), medicinal herbs and

woodlands (Rackham and Moody 1994), and marble sources (Durkin and Lister 1983; Harrison 1990; Paton and Schneider 1999). Ongoing studies of the pottery from across the island continue to clarify issues of imports and local production, and both macroscopic and petrographic analyses are now becoming more common (Aloupi *et al.* 2000; Joyner 2000; Moody *et al.* 2003; Poulou-Papadimitriou and Nodarou 2007; Francis *et al.* 2011). The installation of the W. A. McDonald Laboratory of Petrography at the Institute for Aegean Prehistory Study Center in East Crete, in Pacheia Ammos, has been particularly useful in this regard, and the number of sites and survey projects with Roman pottery using its resources continues to grow.

Interest in Roman Crete has also meant that evidence from this period is now included in studies and publications whose scope is much broader. Such research often has its roots in Bronze Age remains, but the now-widespread acknowledgement of the importance of the Roman period has disseminated information from surveys and excavations across the island, even if this is not always abundant. Survey projects include Roman sites, artefact catalogues, and interpretations that illuminate the history of these sometimes-small pockets of the Cretan landscape. Excavations, such as the Sanctuary of Demeter at Knossos (Coldstream 1973) and the Sanctuary of Asklepios at Lebena (Melfi 2007), have also published Roman phases and material. Theme-based volumes include Roman papers, although these are not particularly common, and articles dealing with earlier periods still outweigh those on Roman topics. Two seminars on Post-Minoan Crete held in the late 1980s included several Roman papers, although the reviewer of the one published volume of these proceedings (Cavanagh and Curtis 1998) commented on the overwhelming predominance of ‘post-Minoan,’ or early Iron Age, papers (Bennet 2000, 230). Similarly, the collection of papers edited by A. Chaniotis (1999), *From Minoan Farmers to Roman Traders*, took the history of Crete farther from its Minoan past than was usual at that time, but only part of this volume focused on the Roman period (Marangou 1999; Paton and Schneider 1999; Baldwin Bowsky 1999; Litinas 1999; Harris 1999). This seems a typical situation for multi-period research project: the publication of a conference on Cretan houses and households (Glowacki and Vogeikoff-Brogan 2011) contained only two papers on Roman subjects (Baldwin Bowsky 2011; Sweetman 2011b) out of 36 contributors. The Cretological Congresses have fared somewhat better and the last few meetings have featured more papers on Roman subjects, although the overall number still remains fairly

low compared to the prehistoric and post-Roman periods. The most focused of these dissemination activities to date has certainly been the multi-volume *Creta Romana e Protobizantina*, the proceedings of a congress published in 2004 and edited by Livadiotti and Simiakaki. These included reports on ongoing excavations and studies on a wide range of specific artefact classes. Journals featuring Cretan subjects, *Creta Antica*, the *Annual of the British School at Athens*, and the Italian School's *Annuario* also regularly publish Roman papers.

## **Roman Crete today**

The study of Roman Crete today addresses many of the same issues that confront scholars of other Roman provinces, but the idiosyncrasies of available evidence pose particular challenges. There is little evidence about the specific role of Crete in the broader Roman world, and many ancient literary references to the island continue to focus on its mythological past, which seems to have held an ongoing fascination for the Romans, as evidenced in the texts of authors like Pliny and Plutarch; mining Roman texts for evidence with which to reconstruct the Roman period on Crete has long proven an unfulfilling task. Epigraphic documents provide more secure information, but they too are limited in their scope. Archaeological evidence has certainly been increasing in recent years, but suffers from a regionalism that has not yet produced a synthetic interpretation of the material that was produced, imported, and used on the island. It is hoped that this volume will provide a more global understanding of the Roman period on Crete through its material culture.

There are thus numerous areas where ongoing, and in some cases intensive, research indicates points of further and fruitful interest not only for our interpretation of Roman Crete, but also for Cretan interaction with the Roman world. For example, the rather elastic period encompassing the late-Roman through early or proto-Byzantine era, from the 5th–7th through 9th centuries AD, continues to be clarified through ceramic research. Despite significant political changes on Crete, many of the same ceramic wares continue to be imported, matched now by new shapes and wares, some of which were produced on the island. This even-partial connection suggests continuity in food technology, but even more so in trade relations, which seem to remain intact. While the nomenclature for this period remains flexible – we have chosen the term ‘first Byzantine period’ in this volume – the impressive amounts of pottery from this phase

excavated from urban centres like Eleutherna and Gortyn will surely refine ceramic chronologies but also trade relationships and foreign contact within the eastern Byzantine Empire.

Another area of recent investigation has been the changing climate of Crete within the long period of Roman occupation. An awareness of climatic instability makes it possible to assess the waxing and waning of agricultural exploitation as evidenced through associated ceramics, especially transport amphorae, while the construction or disuse of water installations like aqueducts and cisterns, can further illuminate how the Cretans coped with such important changes. In this, the island was not alone, and it will be possible to compare Crete against contemporary strategies in other parts of the Roman world. Tied to the results of climate change are surely the numerous earthquakes suffered by Crete at this time, the most catastrophic being that of AD 365 when the island's coastline was significantly altered in places. Destruction levels from excavations at Kastelli Kissamou and Aptera, for instance, reveal local responses to the disaster, which may be mirrored by seismic events elsewhere in the Roman Mediterranean. Late 4th century archaeological data, architectural but also artefactual, are beginning to show the extent of this earthquake on the economy and lifestyle of the Cretans.

An issue receiving little attention but which is tantalizingly present is the existence of different religious communities on Crete in the Roman period: pagan, Christian, and Jewish. Epigraphical and architectural remains show the development of these groups but further study may be able to indicate interaction and influence and whether independent cultural traditions can be reconstructed from, for instance, ceramics, evidence for food production, trade relations, or land use. The decline of pagan sanctuaries, particularly those dedicated to specifically Cretan deities and the rise of Christian churches needs further examination, particularly in the light of the AD 365 earthquake, which may have been instrumental in the increase of converts to Christianity.

An important topic in the study of Roman Crete currently receiving much attention is the island's economy, but here too Crete is anomalous and available evidence provides few secure answers. Very little is known about this subject, and it has long been thought that Crete's financial gain was based entirely on its wine industry and export in *passum*, an interpretation founded both on ancient literary references and the expansive distribution of Cretan transport

amphorae. The initial study of these amphorae presented a scenario in which these wine exports ceased in the late 3rd century AD, after which the island spiraled into an economic black hole. Studies of amphorae from excavated strata after this date, however, prove the continuation of a flourishing trade in amphora-borne commodities well into the late-antique period. The contents of these vessels and the basis for Crete's agricultural production, probably much more than just wine, remain unknown, but the picture of the Cretan economy has now changed considerably and will undoubtedly continue to do so both for Crete but also for the island's trading partners.

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## **From Cyrene to Gortyn. Notes on the relationship between Crete and Cyrenaica under Roman domination (1st century BC–4th century AD)**

*François Chevrollier*

In *Roman Crete*, I. F. Sanders wrote: “rather oddly, Metellus or the Senate decided to join Crete with Cyrenaica” (Sanders 1982, 4-5). Thirty years after this important publication, it is still instructive to ask what can be said about the relations between the two regions that formed the double province of Crete and Cyrenaica during the Imperial period (Fig. 3.1). Since Sanders’ book, new excavations as well as new interpretations have allowed for the development of new theories on and ideas about why the Romans chose to join these two areas. Since most scholars are specialists on either Crete or Cyrenaica, but never on both, Sanders’ opinion has been largely shared and developed in other, more recent studies, such as that of Bechert (2011, 99).

This paper provides another reading on the union of Crete and Cyrenaica; the fact that this union lasted for almost four centuries may actually speak in favour of a planned choice. Its objective is also to update Sanders’ ideas about the nature of the double province of Crete and Cyrenaica by raising new elements that have come to light since the publication of *Roman Crete*.

I will begin with a summary of the pre-Roman relations between Crete and Cyrenaica in order to demonstrate that the union was indeed a thoughtful choice. I will then discuss the chronology and the possible reasons why Rome chose this administrative solution. Finally, I will investigate the economic, public and private relations of the two regions during the Roman Empire, before briefly presenting the situation at the time of the separation in the early 4th century AD.

### **The Pre-Roman relations between Crete and Cyrenaica**

Based on Italian excavations in Cyrene and American excavations in Marsa Matruh in Marmarica, Sandro Stucchi defined a pattern for the Greek presence in North Africa before the 7th century BC colonization and showed that contacts between Crete and Cyrenaica went back to

Minoan times (Stucchi 1967; 1985; 1991). Sherds of the Late Bronze Age (15th–14th century BC) were discovered in Marmarica (White 1986; Stucchi 1991), and Stucchi concluded that the people who brought these artefacts to the Libyan shores sailed from Crete to the Gulf of Bomba, and then to Marmarica. These discoveries were enriched by several others in Cyrene itself, where Italian archaeologists brought to light evidence that suggests intensive relations with Crete during the Late Minoan Era. Sherds from the “Casa del Propyleo”, west of the agora (Baldassarre 1987), as well as a kylix depicting an argonaut (Stucchi 1967), a gem with an octopus (Stucchi 1967), and another vase with the same decorative motifs (Bacchielli 1979), led the Italian scholar to argue for the presence of a Minoan population in Cyrenaica. A Minoan-style altar, discovered in the Roman baths in the heart of the Sanctuary of Apollo in Cyrene (Parisi Presicce 2002), recalls Cretan religious traditions and reinforces the idea of an on-going relationship between the Minoan-Mycenaean areas and Cyrenaica in the Late Bronze Age. Archaeology appears to confirm the evidence from texts that Stucchi listed in another study (Stucchi 1985), especially the *Chronici canones* of Eusebius, who dated the foundation of Cyrene to 1336 BC (Helm 1913, 52). This evidence, however, is not universally accepted: Boardman, for instance, argues against the Minoan characteristics of these artefacts on the basis of stylistic observations, and he therefore rejects the theory of prehistoric links between Cyrenaica and Crete (Boardman 1968).

The problem of identifying the nature of relations between Crete and Cyrenaica finds more secure evidence in Herodotos’ *Histories* (4.151–156): Cretans are present, in one way or another, in the myth of Cyrene’s foundation (Chamoux 1952, 98-103; Harrison 1993). Herodotos states that people from Itanos may have been involved in the original colonization movement: on their way to Libya, the Theraeans encountered Corobios, a fisherman from Itanos in eastern Crete, who helped them to reach the island of Platea just off the coast of Cyrenaica (Herodotos 4.151–153). The fact that one of Cyrene’s tribes in the middle of the 6th century BC includes people from the island suggests that an influx of Cretan population arrived at some point in North Africa (Herodotos 4.161). Relations were therefore strongly established, if not during the Bronze Age, at least during the Archaic period, as similarities between houses excavated in Euesperides (Wilson 2006) and the ones discovered at Lato suggest (Gill 2004; Westgate 2007; Glowacki and Vogeikoff-Brogan 2011), as

well as the important discovery of Archaic Cretan pottery in the extramural sanctuary of Demeter in Cyrene (Schaus 1985, 10–14, 97–98).

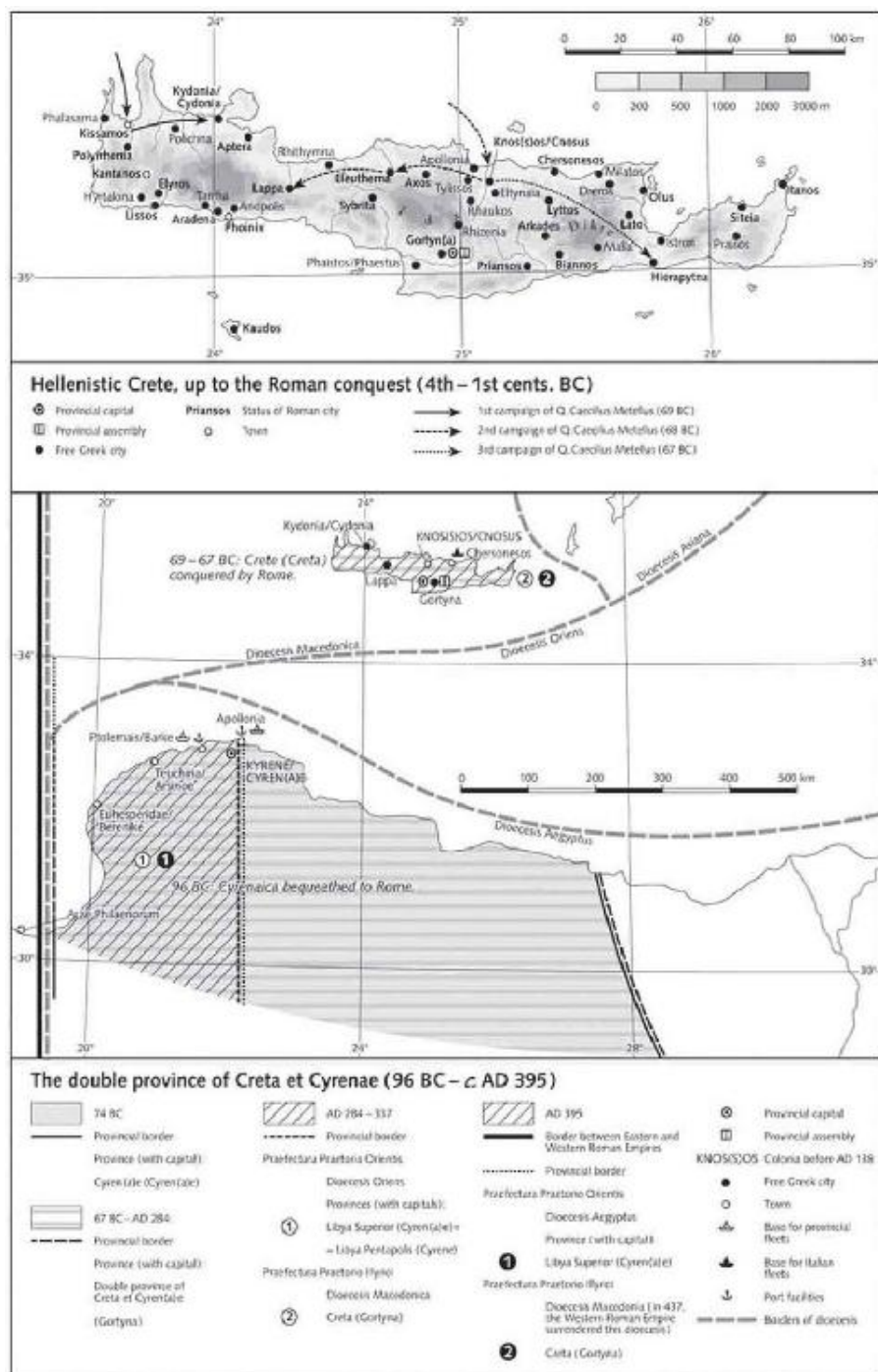


Figure 3.1 Map of Creta et Cyrene. From Der Neue Pauly. Enzyklopädie

der Antike, *Band 6 (IUL-LEE)*, 931, by permission of J. B. Metzler Verlag.

The Classical period saw a tightening of those relations, as the king of Cyrene Arkesilas IV, after his victories in the Pythian Games in the late 460s BC, consecrated two chariots in the Pan-Hellenic sanctuary of Delphi. The first of these is said to have been displayed against the wall of a cypress-made awning previously built by the Cretans in order to expose an Archaic *xoanon* (Pindar *Pyth*, 5.34–42). The second chariot was sculpted by Amphion of Knossos, a major artist of that time, who was active between around 470 and 440 BC (Pausanias 10.15.6). Cretans and Cyrenaicans were not only in contact across the Libyan Sea, but they were also meeting abroad, particularly in the major sanctuaries of the Greek world. The impression is reinforced by several inscriptions of the 4th century BC. The famous ‘Grain Stele’ discovered in Cyrene (*SEG* 9.2) is a catalogue of numerous Greek cities which received grain from Libya after a severe famine hit Greece and the islands around 330 BC. Several Cretan cities appear on the list, including Kydonia, Knossos, Gortyn, Hyrtakina and Elyros. Diplomatic and political relations are also expressed in the treaty of *sympoliteia* between king Magas of Cyrene and the Confederation of the *Oreioi*, in southern Crete, at the end of the 4th century or in the first half of the 3rd century BC (*IC* II.xvii.1; Chaniotis 1996, no. 70), and by the testimony of the influx of many Cyrenaican coins in Crete after the Thibron War (Sutherland 1942, 5, 15–16; Le Rider 1966, 133–51, 187–9). These coins had been overstruck, especially in the workshops of Gortyn and Phaistos in the last quarter of the 4th century BC. This important phenomenon, combined with the evidence of the ‘Grain Stele’ and the *Oreioi* treaty, suggests strong relations during the Classical period. These continued in the 3rd century BC, when Antiphilos son of Mnastokles of Cyrene received the titles of *proxenos* and benefactor of the Cretan city of Olous (*IC* I.xxii.4A, lines 41–42).

Evidence diminishes at the beginning of the Hellenistic period, when the city-states of Crete sank into internal conflicts. The inscription bearing the name of the Cyrenaican Semer, son of Diogenes, who made a consecration to Pan in Phaistos in the 3rd or 2nd century BC, may be the only testimony of a direct connection between the two regions during this time (*IC* I.xxiii.2).

## **The unification of Crete and Cyrenaica**

When and why did Rome create the double province? This question

has already been discussed by several scholars (Chamoux 1952, 12–14; Perl 1970; Sanders 1982, 3–11; Harrison 1985; 1988; Baldwin 1983, 1–6; Laronde 1988, 1011–15). My point in this section is to clarify what can be said about the date of the union and the reasons why the Romans united Crete and Cyrenaica into a single province. Studies on this aspect have very often produced a negative light on the matter, including that of Sanders, who, like others (Harrison 1988; 1998, 129; Bechert 2011, 99), insists on the inconsistency of the union. What I will present below shows a slightly different perspective.

### ***When?***

This question, of course, always arises when one tries to understand the creation of the double province of Crete and Cyrenaica. Several scholars date the union from 67 BC, while others place it under the government of Marc Antony in the east; still others believe it took place only under Augustus (references below with the discussion of the different possible dates). Ancient sources offer the following simplified chronology:

96 BC Apion, the last Egyptian king of Cyrene, bequeathed Cyrenaica to Rome.

74 BC The province of Cyrenaica is organized by the *quaestor* P. Cornelius Lentulus Marcellinus. A period of local tyrannies follows before the region is re-organized as a province in 67 BC by Cn. Cornelius Lentulus Marcellinus, under Pompey's government (Reynolds 1962).

69–67 BC Crete is conquered by Metellus Creticus, after the last three cities of the island (Eleutherna, Lappa and Hierapytna) fall. The first governor of Crete might have been Cn. Tremellius Scrofa (Cicero *Att.* 6.1.13; cf. Bechert 2011, 29).

44 BC Cyrenaica is given to Cassius and Crete to Brutus, but these two never came to their provinces and preferred to fight for power outside their possessions.

30s BC Once Marc Antony governed the eastern Mediterranean, the fortune of Crete and Cyrenaica is unclear. Antony seems to have given Cyrenaica and the eastern part of Crete to Cleopatra, since they were formerly Lagid possessions.

31 BC Battle of Actium. Augustus' armies occupy Crete and Cyrenaica.

27 BC *Terminus ante quem* for the administrative union of Crete and



Cyrenaica, after which the emperor and the Senate shared the provinces. The new province of Crete and Cyrenaica is a senatorial one (Dio Cass. 53.12; Strabo 17.3.25).

As straightforward as it may seem, this outline remains incomplete. Furthermore, it does not show clearly when Crete and Cyrenaica were united for the first time. The answer may be found in the numismatic evidence. According to the *RPC* (Burnett *et al.* 1992, 217–18), the Roman administration issued two series of coins starting in 67 BC. The first Roman issue was used both in Crete and Cyrenaica at the same time. It had two different series:

First issue/first series (Burnett *et al.* 1992, cat. no. 904–906): bust of Rome (right) and bee (reverse) with the legend KPHT KYP. As the bee is a Cretan type that appeared on several issues before the Roman period, this type is likely to have been minted in Crete (see below for references).

First issue/second series (Burnett *et al.* 1992, cat. no. 907): bust of Libya (right)/Artemis (reverse) with the legend ΑΙΒΥΗ ΚΡΗΤΑ and the name of P. Lepidius.

The second Roman issue also had two different series: one in Greek, probably minted in Cyrene and circulating in Cyrenaica, and one in Latin, discovered in Crete and certainly minted in Gortyn or Knossos (Burnett *et al.* 1992, 218–19 and cat. nos 908–918). They all bear the names of L. Lollius or Crassus: these magistrates were therefore active in both regions, as they both issued series in Greek and Latin under their names.

The problem lies in the date of these four series. What we can say for certain is that Crete and Cyrenaica were administratively united when these coins were minted: the legend of the first issue, with the names of both Crete and Cyrenaica/Libya, and the names of the Roman magistrates on both the Greek and Latin series of the second issue are enough to prove this. As stated above, it is not possible to date these coins neither before 67 BC nor after 27 BC. According to the *RPC*, the common issues stopped in 34 BC, probably when Cyrenaica was given to Cleopatra. From 34 to 31 BC, new types were circulating: issues of Pupius Rufus (Burnett *et al.* 1992, 221 and cat. nos 919–923) and issues of Cleopatra and Marc Antony (Burnett *et al.* 1992, cat. nos 924–925). If so, we have to look at a period between 67 BC and 34 BC to place our four series.

Scholars like Robinson (1927) or Romanelli (1936; 1943, 50–1) thought that these issues had been minted since 67 BC, and,

consequently, that the union went back to that date. But Perl (1970; 1971) showed on prosopographical grounds that Crete and Cyrenaica were separated between 52 and 49 BC, and again in 44–43 BC. He therefore dated the KPHT/KYP type between 40 and 34 BC, i.e., before the areas were given to Cleopatra (Dio Cass. 49.41). Laronde accepted Perl's opinion of placing the union under the government of Marc Antony (Laronde 1988, 1013).

The latter option could have been accepted if sources were consistent, but in the 30s BC, Crete seems to have been governed by the confederation of the *Kretaieis*, under the supervision of Kydas the Cretarch. The whole 'dossier' (Rouanet-Liesenfelt 1984) shows a person by this name appearing on inscriptions (*IC* IV.250, IV.251), on coins (Svoronos 1890, 334 no. 1 and pl. 32 fig. 1; Raven 1938, 154–8; Burnett *et al.* 1992, 222) and also mentioned in Cicero (*Phil.* 5.13). Rouanet-Liesenfelt believes that Marc Antony created this confederation and chose Kydas to rule it, probably between 43 BC (the end of Brutus' proconsulate) and Actium. If Kydas was ruling Crete, or a part of it, Crete and Cyrenaica were not united, and Perl and Laronde's suggestions for a union between 40 and 34 BC are therefore incorrect. The uncertainty of the date of the coin issues presented above, the vagueness of Kydas' chronology, and the contradiction of sources have led several scholars to date the union between Crete and Cyrenaica only to 27 BC (Harrison 1985; Baldwin 1983, 6; Pautasso 1994–1995), although my suggestion is that the numismatic evidence described above should speak in favour of a union before Augustus' reign, most likely as early as 67 BC.

### **Why?**

Sanders' opinion was forged in the 1970s, at a time when archaeological excavations, as well as studies on Roman Crete and Cyrenaica, were rare and, at least, not thorough – Sanders was indeed the first scholar to write a book on Roman Crete. More recently, Bechert defined the union as a 'superficial', 'arbitrary' administrative decision (Bechert 2011, 99). Harrison (1985) shares this opinion, inherited from Sanders. It is true that the history of the two areas is strictly different. Crete had almost a hundred cities, according to Homer (*Il.* 2.649), Virgil (*Aen.* 3.106) and a late-Roman inscription mentioning the Ἑκατονταπολῖται (*IC* IV.373), while Cyrenaica counted only four to six, depending on the period (Sanders 1982, 11–13; Alcock 2002, 102–3; Chaniotis 2004b; 2008). Climate,

productions, urbanization development, political evolution, as well as their populations (with strong Libyan and Jewish communities in Cyrenaica) shaped two separated areas, each with its own cultural or religious features.

But, despite these observations and the *opinio communis*, I would like to discuss here several positive reasons for the unification of Crete and Cyrenaica. The first, but not decisive one, may have been economic. The two areas were perhaps too small to be economically viable on their own. The main trade routes of the eastern Mediterranean included Cretan and Cyrenaican harbours, and the Republican administration may therefore have wanted to unify an important trade zone by joining an island with the mainland, as it did with Cyprus and Cilicia or Egypt, in order to maximize regional exchanges (Viviers 2004). Inscriptions (IC IV.290; Gasperini 1971, 15–16) depict Roman merchants conducting business in both areas: Italian *negotiatores*, as well as publicans, were active and controlled the production of lots of economic goods. The necessity of a unified area for a safe and peaceful trade might have played a role in the union.

A second reason for the unification of Crete and Cyrenaica was the fight against pirates. It is well known that the Libyan Sea was infested with pirates. Florus (1.41) recalls the history of the pirate Isidoros who had been active in the Aegean between c. 88 and c. 78 BC: “*ac primum duce Isidoro contenti proximo mari Cretam atque Cyrenas et Achaïam sinumque Maleum, quod ab spoliis aureum ipsi vocavere latrocinabantur*”. Laronde (1988, 1010) underlines the importance of the Libyan coasts for pirate activity at the end of the Republic, and Isidoros was more than likely using harbours both in Crete and in Cyrenaica for his lootings. Rome sent Pompey to fight against the pirates and ensure peaceful commercial transactions (Reynolds 1962; Baldwin Bowsky 2001b). The withdrawal of pirates from the Libyan Sea seems to have been of some importance in Roman policy as well as in Pompey’s eyes. This danger cut the southern Mediterranean in two parts, and it may also have impacted trade with Egypt. The union under the authority of a single proconsul was indeed a strategic, military decision taken in order to bring peace to the area. Even if the coin issues of Caesar’s *praefecti classis*, formerly attributed by Alföldy to the Cyrene mint (Alföldy 1966), are now thought to have been minted in Italy (Burnett *et al.* 1992, 157–8), we might still confirm that the new province was a naval basis of utmost importance in the heart of the Mediterranean Sea.

Finally, the third, and perhaps the most obvious reason, is geography, as Crete is the closest land from Cyrenaica northward. If Cyrene and the surrounding cities were too isolated and if the population of the region was too small to make a province on its own, then joining Cyrenaica with Crete was the most efficient option the Republic could have taken. Strabo (17.3.22) reports commercial relations between Cretan and Cyrenaican harbours and mentions a place called Chersonesos in Cyrenaica, located directly opposite to the Cretan harbour of Kyklos. He adds: “indeed, I might almost say that Crete as a whole, being narrow and long, lies opposite, and parallel, to this coast [i.e. the coast of Cyrenaica]” (ὅλη γὰρ σχεδόν τι τῇ παραλία ταύτῃ ἀντίκειται παράλληλος ἡ Κρήτη στενὴ καὶ μακρά). As Chamoux already observed in the 1950s, the distance between Apollonia of Cyrenaica and the south shore of Crete is only 300 km, although one must travel 800 km from Cyrene to Alexandria (Guédon 2012) and 900 km from Berenice to Lepcis Magna through the desert (Strabo 17.3.20; Chamoux 1952, 12–14). Cyrenaica is part of Africa on a geographical basis, but it belongs to the Aegean area from an economic and cultural point of view. The city-states of ancient Cyrenaica were looking toward Crete, Greece, Sicily and southern Italy, more than toward Tripolitania or Alexandria, even if Cyrene was part of the Lagid Kingdom in Hellenistic times.

### ***Roman administration in Crete and Cyrenaica***

From 27 BC on, Crete and Cyrenaica were united into a single province. The most obvious change is the new administration that was established at that time. The province belonged to the Senate, and was ruled by proconsuls of praetorian rank, of whom we know a list of almost 70 (Baldwin 1983; Pautasso 1994–1995; Rémy 1999). The governors of Crete and Cyrenaica were not the most famous, high-ranking Roman magistrates, and they pursued middle-range careers. The province was a small to medium one, far behind Asia or Africa in terms of population size and economic wealth.

Whether the procurators were active in both parts of the province has been a disputed question since Pflaum’s important study on equestrian procurators in the Roman world (Pflaum 1960–1961, 104). He argues that the *procuratores provinciae Cretae* were also in charge of Cyrenaica. Reynolds and Laronde, on the contrary, suggest that they were active only in Crete, since the only procurator we know in Libya goes back to the Severan period (Laronde 1988, 1016; Reynolds and

Lloyd 1996, 632). Laronde thought that the *procuratores Cretae* did not intervene in Cyrenaica because of the specificities of the two regions, each with its own problems. These observations on the governors and the procurators give the general idea that the Roman administration was flexible. If there was only one proconsul for the province, the administration could very well have been separated when it came to local business, such as the financial affairs under the control of the procurators. The same can be said about the imperial cult: Crete and Cyrenaica each had its own *koinon*, priests and celebrations for the cult of the emperor. In fact, the Roman administration tried to adapt itself to the specificity of a double province: the unity was formally maintained but this did not forbid flexibility to respect political identities: at that level, the bounds between Crete and Cyrenaica remained a reality.

The same flexibility may have prevailed for the choice of the *caput provinciae*. For years, Gortyn has been considered the capital of the province because archaeologists thought that the so-called praetorium was the residence of the governor. Recent Italian excavations under the supervision of Antonino Di Vita have proved that it became the proconsul's residence only in the 4th century AD, after it had been used as a gymnasium and then as baths (Di Vita 2010, 162–205). This building thus can no longer be considered evidence in the debate of the capital city of the province. Haensch, who makes Gortyn the capital city, shows that Gortyn and Cyrene concentrate almost all testimonies about the governors, probably making one of them the *caput provinciae* (Haensch 1997, 201–7, 512–17). In the *Tabula Peutingeriana*, an ancient map of the Mediterranean world dating from the 4th century AD but only known by a medieval copy, the cities, the geographical features and the road network of Crete are well described (Pazarli *et al.* 2007). Eighteen Cretan city-states appear on the map, four of which are clearly considered larger and more important than the others. These cities are *Cortys* (Gortyn), *Hiera* (Hierapytna), *Cydonea* (Kydonia) and *Cisamos* (Kisamos). According to the map, Gortyn is also the point of convergence of the roads coming from the south, east and west parts of the island, and can therefore be considered the political and economic 'centre' of Crete during Late Antiquity (Lippolis, this volume). Even if Knossos was a colony and also an important city (Strabo 10.4.11), it was less populated than Gortyn. The latter was the largest city of Crete, and the *Tabula Peutingeriana* reflects its probable status of capital-city of the island during the Empire, while in Cyrenaica, Cyrene was clearly the largest

and most powerful city (Wilson 2011). Cyrene appeared to have had more privileges than any other cities of the area (*SEG* 28.1566) and was also the place where the governor held his *conventus* (Williams 1982). The proconsul may have shared his year spent in the province between the two regions in order to dispense justice equally, and there must have been two capital-cities, one in each part of the *provincia*. Here again, Crete and Cyrenaica did share a common fate in the context of a flexible, though not loose, administration. Did this context allow Crete and Cyrenaica to develop and intensify their relations?

## Trade and economic relations during the Roman Empire

### *The archaeological evidence: ceramics and lamps*

Crete and Cyrenaica belonged to the main trade routes of the eastern Mediterranean during the Principate. One route started in Italy and moved from the harbours of Puteoli and Pompeii to Sicily, Crete and Asia Minor. Another one linked Italy and Cyrenaica with Alexandria, while a third route linked mainland Greece (Athens and the Peloponnese) with the Aegean Islands, Crete and Cyrenaica. The ‘Grain Stele’, dated to the 4th century BC, gives a clear picture of this trade path (*SEG* 9.2) and demonstrates that Crete, if not Cyrenaica, was located at the heart of the ancient Mediterranean trade. Saint Paul’s stop-off in Gortyn also illustrates that Minos’ island was an important place on maritime and travel routes (*Acts* 27). In the 5th century AD, Synesios, bishop of Ptolemais, distinguished in one of his *Letters* a major trade route (Alexandria – Paraitonion – Crete – Sicily), which highlights the privileged geographical position of Crete’s shores and harbours (*Letter* 5).

Moreover, most of the archaeological artefacts from the Sidi Khrebish (an ancient district of Berenice, modern Benghazi) excavations illustrate commercial exchanges with Italy, Asia Minor and Africa rather than with Crete. The ceramic record cannot prove any links with the island: Kenrick’s analyses of fine wares from Berenice show, for the Roman period, a clear predominance of imports from Italy, the Aegean area excluding Crete and, for the late-antique period, a strong increase in trade with Africa (Kenrick 1985). That Berenice looks toward the western Mediterranean is also shown by the trade in glass vessels. Price (1985) underlines the connections of this city with Italy and the West. The same conclusions can be drawn from the study of Roman amphorae from Crete. The last decade has made possible the measurement of Cretan exportations in Italy and the

northern provinces during the Roman period. Recent publications of excavations at Monte Testaccio in Rome, of shipwrecks, and of several archaeological sites in modern Russia, Ukraine, Cyprus, Egypt, France and Germany throw light on this phenomenon (Marangou 1999; Vogeikoff-Brogan *et al.* 2004; Chaniotis 2005; Badoud *et al.* 2012; Gallimore in this volume). Cretan amphorae of the Roman era were largely exported throughout the ancient Mediterranean and many of them (complete amphorae or stamps) have been discovered in recent excavations, but again, Cyrenaica seems to be isolated from this exchange pattern (Lloyd 2002; Gallimore 2011, 447–8).

The production of terracotta lamps, however, is of greater assistance for drawing an intelligible picture of commercial relations between Crete and Cyrenaica. The ‘dossier’ of late-Hellenistic and Roman lamps from Crete constitutes an important step in understanding the commercial and cultural exchanges between the two parts of the province. It is based on two distinct groups of lamps. To the first group belongs a series of lamps discovered at Berenice (Bailey 1985). During the reigns of Augustus and Claudius (i.e., from the end of the 1st century BC to the middle of the 1st century AD), Cretan lamps of early Roman date but of Hellenistic type were imported to Cyrenaica (Bailey 1985, pl. I, figs 7–18). Local workshops then imitated this production, especially in Berenice, thanks to the importation of moulds. Bailey counts 34 pieces in Berenice and describes them as follows: they have a “biconical body, long nozzle with swelling, rounded tips, occasionally flanked with nozzle-volutes, applied handles and base rings”. These lamps bear impressed geometrical motifs and have an orange to buff clay and a generally red-brown slip (Bailey 1985, pl. VI, figs 110–15). This Hellenistic type of lamps has also been discovered at Kommos (Shaw *et al.* 1978, pl. 42, figs C265–6, C318; Shaw and Shaw 2000, 321–5, pls 4.70, 4.72). This first group of lamps shows important exchanges in this industry around the Augustan period, precisely when the relations between Crete and Cyrenaica seem to have been the strongest.

The second group is based on the discoveries of lamps of a common style at Sidi Khrebish, in Cyrene (Panico 2006, 96), at the Unexplored Mansion at Knossos (Catling and Catling 1992, 257–322) and in the Idaean Cave in central Crete (Sapouna 1998, 95–103). One workshop has been identified for this group: lamps from the atelier of Gamos have been discovered both in Benghazi and in the Idaean Cave. Sapouna assigns the workshop to Crete because a majority of lamps

comes from there; lamps and/or moulds could have then been exported to Cyrenaica and imitated there. It appears that there was a homogeneous Cretan group of lamps exported from the end of the 1st century BC to the 3rd century AD to Cyrenaica, where local workshops could have produced some imitations. Gamos was the head of a Cretan atelier, whose production found success in both parts of the province, with its heyday in the 2nd century AD.

The lamps that bear the inscription ΓΑΜΟΥ are described by Bailey as follows: they have “a circular body with short, rounded nozzles” with “pierced ring-handles and plain, rounded shoulders”; nozzles are often “heart-shaped”. They are made of orange-to-brown clay and have slips of different colours. This description is only an example, since other lamps that do not belong to the Gamos workshop, but which are still parts of the Cretan group, have different shapes and colours. Several motifs are depicted on the discs of the Gamos lamps. Some of them are also depicted on the lamps found at Benghazi and in the Idaean Cave, such as Artemis with an altar and a dog, a standing Eros, the lion, and the eagle (Sapouna 1998, pl. 1, figs 4–6, pl. 44; Bailey 1985, 32, no. C915, pl. 26).

Finally, it has to be noticed that lamps belonging to this Cretan group (but without the Gamos signature) were discovered in the Unexplored Mansion excavations at Knossos (Catling and Catling 1992), and a few pieces were also found in Cyrene (Panico 2006, 96). They are therefore now known from four sites in Crete and Cyrenaica.

Beyond the interest of this Cretan, high-quality group for the history of lamps, what is of particular interest to us is that “there was a relationship – and a fairly close one – between the lamp industries of Cyrenaica and Crete during the first two and a half centuries CE” (Catling and Catling 1992, 316). The main point here is to show important commercial exchanges between our two regions from Augustus to at least the 3rd century AD. Bailey thought that the atelier was originating in Cyrenaica, although Sapouna, as we have already said, thinks it was located in Crete. Actually, the original workshop may well have had an Italian origin, as some other artefacts discovered outside Crete and Cyrenaica bear the Latin inscription GAMUS. Sapouna assumes that the workshop moved to Crete sometime after the Roman conquest of the island (Sapouna 1998, 95–103). In any case, the Catlings’ impression that “there seems to be more in common between Crete and Cyrenaica than between Crete and other parts of the Roman world” (1992, 318) when studying lamp



production should be emphasized.

### ***Coin circulation***

Coin circulation is also an important aspect for the study of economic relations, as an abundant circulation could indeed demonstrate intensive exchanges as well as highly linked economies.

After the Thibron War in the late 4th century BC and the looting of Cyrene's harbour, many Libyan coins made their way to Crete and are found especially at Gortyn and Phaistos, in the Mesara area. These coins were overstruck by Cretan workshops (Sutherland 1942; Le Rider 1966, 133–51, 187–9), and Le Rider, in particular, shows that this occurred for many coins from the Cyrene and Barka workshops from the 5th to 3rd centuries BC. The circulation of these coins in Crete during Classical times illustrates intensive economic relations between the two regions: they could have been brought to Crete by mercenaries working for Thibron and taken from the spoils they made in Cyrenaica. Le Rider (1966, 138) suggests that about 100,000 tetradrachmes could have been brought by 2000 Cretan mercenaries. Even if the total amount should probably be reduced, the large number of Cyrenaican coins found in Crete from the 4th century BC is nevertheless a vivid testimony of their economic relations. Louis Robert indeed confirms that the presence of coins from Cyrene in Crete is normal, either in their integrity or overstruck (1951, 199).

Starting with the annexation of Crete and Cyrenaica by Rome, a group of common coins circulated in both areas (for an overview of Cretan coins from 67 BC to the Arab conquest, see Sidiropoulos 2004). The first issue bears on the right the head of the goddess Rome and a bee on the obverse, with the inscription KPHT and KYPA (Burnett *et al.* 1992, nos 904–6). The bee is a Cretan type that is recorded in previous periods from Aptera (Svoronos 1890, 16 no. 12 and pl. 1 figs 14–16; 19 no. 33 and pl. 1 fig. 32), Elyros (Svoronos 1890, 141–2 nos 1–6 and pl. 12 figs 9–13) and Praisos (Svoronos 1890, 290 nos 36–7 and pl. 28 figs 9–11, 15–16). The second series was issued with the name of P. Lepidius and bears the inscription ΛΙΒΥΗ and KPHTA. The bust of the goddess Libya is depicted on the right and Artemis, who represents Crete, on the obverse (Burnett *et al.* 1992, no. 907). The authors of the *RPC* think that these coins were struck in Crete but with a circulation within the two regions. As stated above, the main question is the chronology of these coins. Even if this problem is not resolved, the issues just described show an intense circulation of coins

between Crete and Cyrenaica, in the period between 67 BC and the time of Marc Antony, and prove that the economies of the two regions were largely linked and interdependent during the second half of the 1st century BC.

Coins common to the two areas cease to be struck when Augustus took power in Rome. During the 1st century AD, Cretan and Cyrenaican cities struck their own coins, in spite of the interruption of the Cyrene workshop between Tiberius and Trajan (Asolati 2006, 183–4). As Laronde (2004) notes, coin circulation between Crete and Cyrenaica was important until Actium, and then stops with the Empire. Robinson (1944) published a hoard of 200 bronze coins collected during World War II in Libya by an officer of the Royal Air Force. This rare collection can give an idea of foreign coins circulating in Cyrenaica during the Empire, but only one coin from Knossos and two coins issued by the Cretan *Koinon* during the reigns of Claudius and Nero were part of this hoard. This scarcity of coin circulation between the two parts of the double province can be extended to the whole period of the Principate. In the same article, Laronde (2004, 188 n. 6) testifies that his own (unpublished) research in the numismatic collection of the Cyrene museum confirms this view.

It is difficult to define a pattern of economic relations between Crete and Cyrenaica in the Roman Empire. Trade of ceramics, lamps, and also of local marble (Lazzarini 2004, 1255) shows that quite a lot of goods were imported from Crete to Cyrenaica. On the contrary, exports from Cyrenaica to Crete are not easy to identify. Exportations were mainly perishable goods, among which grain and perhaps oil were the most important ones (Gallimore 2011, 449–52). Lamluda, a site east of Cyrene, was a major oil production centre in the late Roman period with c. 50 olive presses (Wilson 2009, 216–17). Even if this trade is difficult to quantify archaeologically, it suggests “that Crete and Cyrenaica shared an intricate economic relationship when they were joined as a province” (Gallimore 2011, 452).

### **Official and private relations: a prosopography of the Cyrenaicans in Crete**

Several meaningful inscriptions relate to both official and private relationships between the Cretans and Cyrenaicans. Most of them come from Gortyn and invite us to focus on the ‘dossier’ of the *proxenoi* of the Cretan city. Around the 1st century BC, five men from Cyrenaica were made *proxenoi* of Gortyn. These texts were discovered

at the end of the 19th century or beginning of the 20th century, except for two of them, which have come to light more recently (references below with each text). They are all dated between the 1st century BC and the 1st century AD, although their writing and style cannot prove whether they go back to a period before or after Crete was made a province. These inscriptions recall the honour held by these five men, who gained the status of *proxenos* of Gortyn, probably due to services given to that city. The name of the *proxenos* is always followed by his ethnic, and by the usual sentence Γορτυνίων πρόξενος καὶ πολίτας αὐτὸς καὶ ἔκγονοι. Below is a list of these men:

Ιαφθας Λύσιος Πτολεμαιε[ύ]ς (IC IV.211)

Φιλόξενος Ἀλέξιδος Κυρηναῖος (IC IV.212)

Εὐίππος καὶ Πτολεμαῖος [ο]ἱ Πτολεμαί[ο]υ Κυραναῖοι (SEG 48.1210)

Κόιντος Τήδιος Ἑλενος ὁ πρότε[ρον] Κυρηναῖος νῦν δὲ Γορτυνίων πολίτας (IC IV.214)

It is not clear whether the fifth man, named Quintus Tedijs Helenos, was also a *proxenos*, although the similarity with the previous texts suggests that this was probably the case. He bears the *tria nomina* and it is clear that the inscription was erected after he obtained his new citizenship.

Doubts arise when we look at two other inscriptions that also relate to Gortynian *proxenoi*. One inscription (IC IV.215c) bears the following text: Γ(άιος) Λυτ άτιος Κρίσπος στρατιώτης ΠΤΟ Γορτυνίων πρόξενος καὶ πολίτας αὐτὸς καὶ ἔγγονοι. The abbreviation ΠΤΟ and its place in the sentence clearly refer to the ethnic of Gaius. Cagnat (Cagnat 1906, no. 1515), Guarducci, and Spyridakis (Spyridakis 1970, 87) translated these letters into Πτο(λεμαϊκός). This individual would thus have been a soldier of the Lagid army in Crete and would have come from Itanos, where the last Egyptian troops were stationed until the Roman conquest (Spyridakis 1970). In a more recent paper, Rigsby (1996) argues that Gaius was a man originating from Ptolemais in Cyrenaica. This στρατιώτης Πτο(λεμαϊεύς) should consequently be added to our list of Cyrenaicans who became *proxenoi* of Gortyn.

The second inscription whose text is debated (IC IV.206i) describes how two brothers, Timagoras and Proklos, sons of Alexon, are declared *proxenoi* of the Gortynians, themselves and their heirs. The

inscription states that they are Ἀπελλωνιᾶται. The Greek world, needless to say, counts a lot of places called Apollonia, in honor of the major God Apollo. Of course, any Apollonia would theoretically be eligible, but in a Cretan context, we can hesitate between the Apollonia of Crete, located on the north shore of the island, west of Herakleion, and the Apollonia of Cyrenaica, the port of Cyrene. The style and content of the inscription clearly refer to the other texts discussed above, and it is also very tempting to date it during the 1st century BC or early 1st century AD, so that they all belong to the same political context. If we are right to place this inscription during this period, Apollonia of Crete must then be discarded since it had been destroyed in the early 160s BC, after its conquest by Kydonia in 171 and the following war between Gortyn, Knossos and Kydonia for the control of its territory, in 170–68 BC (Chaniotis 2004a, 82). On the contrary, Apollonia of Cyrenaica was at that time a flourishing city. Just freed from the authority of Cyrene (Laronde 1996a), Apollonia appears in several inscriptions as an independent city, both in itself (lists of the priests of Apollo) and in its relations with the Greek world. At a time when Apollonia was trying to be recognized as a city, it would not be surprising to find two men becoming *proxenoi* of the Gortynians, and by doing this, developing their city's diplomatic efforts. I share Baldwin Bowsky's opinion in considering Timagoras and Proklos as coming from Apollonia of Cyrenaica after it became autonomous (Baldwin Bowsky 2001a, 102). The three individuals (the one from Ptolemais and the brothers from Apollonia) should then be added to the list of Cyrenaicans in close relations with Gortyn at the end of the Republic-beginning of the Principate.

A Latin inscription from Gortyn quotes a Marcus (?) Antonius E[- -], from Cyrene, being *duumvir* in the Roman colony of Knossos. Discovered by Baldwin Bowsky in the early 1980s, the stone was studied in the 1990s and finally published by its discoverer in 2001 (Baldwin Bowsky 2001a, 99–100). Although incomplete, the stone could be interpreted as a panel decorating the base of the man's portrait. Baldwin Bowsky dates the text from the middle of the 1st century AD, and she also sees this man as coming from Italy, living in Cyrenaica and who would have been active as a *duumvir* in Knossos. The fact that several *Antonii* from Cyrenaica are known through epigraphy validates the idea that he could also have been a citizen of Cyrene, and that he may have become one of the most important magistrate of Knossos thanks to his generosity toward this city, in a way that cannot be known for certain. The text itself does not exclude

the possibility that Antonius is an Italian but it does not confirm it either (see the commentary of the inscription in AE 2001.2058).

At this point of the discussion, eight or nine Cyrenaicans are attested in Crete through inscriptions. Two more can be added to this collection, although they are not official in kind, but private, and may refer to people from a more common social status. The interesting point is that we are here dealing with funerary epigrams. In an inscription from Gortyn (IC IV.372) and probably dating to the 1st century BC, a woman called Philo, originating from Teuchira in Cyrenaica, laments that she died on a foreign land: “A foreign dust hides my bones, but my Libyan homeland, Teuchira, did not hide them with its own dust”, as it is said in the last two sentences of the text (ὅστέα δὲ ξίνα κατ[έχ]ι κό]νις, ἃ δὲ Λίβυσα πατρὶς [Τ]α[υ]χίρων οὐκ ἐκάλυψε κόνει) (Martinez Fernandez 2006, 87–8; Bile 2011). Beyond the interest of this epigram for the history of Greek poetry in Crete, we might notice that we have no proof of Philo being a member of the elite here, although the fact that poetry is used in the epitaph could be interpreted as an example of a high-class *imitatio* by people from a lower status. A second text, from Aptera in west Crete, is the funerary epigram of another Libyan woman, named Sympherousa, who died at the age of 30. The inscription was studied by Guarducci in 1928 and dated to the 3rd or 4th century AD (IC II.iii.44). The style and grammar are unique (Guarducci 1929) and the translation is not easy to follow. The style of the text, as well as the name of the dead, which she finds attested in Lambertz’s inventory of slave names (Lambertz 1907, 52), led Guarducci to conclude that Sympherousa may have been of servile origin or a freed woman. Travelling to Crete may have not been her own choice, but the fact that she warranted a stele also shows that she must have reached some status in the island.

Based on this material, we can draw a table of Cyrenaican individuals in Crete during the Imperial period (Table 3.1).

*Table 3.1 Cyrenaican individuals in Crete during the Roman period*

| Name                         | Place of origin     | Function                       | Date                      | Probable social status   | Reference (provenience)       |
|------------------------------|---------------------|--------------------------------|---------------------------|--------------------------|-------------------------------|
| Φιλῶντος Ἀλῆσιδος            | Cyrene              | <i>Proxenos</i>                | 2nd–1st cent. BC          | Elite                    | JC IV.212 (Gortyn)            |
| Ιερθεὺς Λύσιος               | Ptolemais           | <i>Proxenos</i>                | 1st cent. BC              | Elite                    | JC IV.211 (Gortyn)            |
| Εὐστάσιος Πτολεμαίου[ο]      | Cyrene              | <i>Proxenos</i>                | 1st cent. BC–1st cent. AD | Elite                    | SEG 48.1210 (Gortyn)          |
| Πτολεμαῖος Πτολεμαίου[ο]     | Cyrene              | <i>Proxenos</i>                | 1st cent. BC–1st cent. AD | Elite                    | SEG 48.1210 (Gortyn)          |
| Εὐνόσιος Τηδέος Ἐλενος       | Cyrene, then Gortyn | Citizen, maybe <i>proxenos</i> | 1st cent. BC              | Elite                    | JC IV.214 (Gortyn)            |
| Τ(άσιος) Αὐριτίου Κρίππου    | Ptolemais           | Soldier and <i>proxenos</i>    | End 1st cent. BC          | Elite                    | JC IV.215a (Gortyn)           |
| Τυμαγόρας Ἀλῆσιδος           | Apollonia           | <i>Proxenos</i>                | 1st cent. BC–1st cent. AD | Elite                    | JC IV.206i (Gortyn)           |
| Πρόξιος Ἀλῆσιδος             | Apollonia           | <i>Proxenos</i>                | 1st cent. BC–1st cent. AD | Elite                    | JC IV.206i (Gortyn)           |
| M[arcus] [?] Antonius E[- -] | Cyrene (?)          | <i>Dunastēr</i>                | Mid-1st cent. AD          | Elite                    | Baldwin Bowsky 2001a (Gortyn) |
| Φιλῶ                         | Teuchira            | Unknown                        | 1st cent. BC              | ?                        | JC IV.372 (Gortyn)            |
| Συμφερουσα                   | Libya               | Unknown                        | 3rd–4th cent. AD          | Slave (?) or freed woman | JC II iii.44 (Aptera)         |

Several observations can be drawn from this list. First, we now have ten or eleven men and women from Cyrenaica attested in Cretan inscriptions during the Roman Empire. This list updates that of Laronde in a 1996 paper (1996b): he listed six testimonies of Cyrenaicans in Crete (2.2% of the total of the Cyrenaicans attested abroad). Prosopographical evidence can now increase the number up to 11 testimonies, even if this does not really modify the percentage.

Second, if we exclude the funerary poem of Sympherousa, the period between the 1st century BC and the 1st century AD must be highlighted. These two centuries concentrate ten out of 11 testimonies. Commercial, official and private relations between Crete and Cyrenaica seem to have been dynamic and hectic during this period, as already discussed. The union between the two regions created a context of intensive relations that apparently decreased after the middle of the 1st century AD, although this may also simply reflect archaeological sampling.

Third, epigraphy appears to suggest that we only know Cyrenaicans active in Crete but not Cretans active in Cyrenaica, with the exception of Παρμένων Νικία (SEG 9.196, 4th century BC) and Ζώλιος Κρής Ἐλευθερναῖος who is mentioned in an unpublished funerary inscription from Apollonia (probably 3rd century BC). It is therefore very curious that we currently do not have any inscriptions mentioning a Cretan in Libya for the Roman period. The observations made above from trade patterns let us think that this is only a question of documentation, although inscriptions give the impression, anyhow, that it is Cyrenaica which is looking toward Crete rather than Crete toward Cyrenaica. An extract of Philostratos' *Vita Apollonii* (4.34), which describes the visit of Apollonios of Tyana at the sanctuary of Asklepios in Lebena, confirms that many Cyrenaicans

made the journey to Crete to worship the God and pray for healing. We can also suggest that the imitation of Gamos Group lamps derives from the pilgrimage of Cyrenaicans to adorn the Zeus of Mt. Ida: they could have brought the lamps back with them to Berenice, where they were imitated by local workshops (Bailey 1985, 128, even if he thinks that the lamps were a Libyan production brought to Crete along with the pilgrims to Mt. Ida). We can also speculate that many Cyrenaicans were taking advantage of the numerous grain ships sailing to Crete to make the journey to the island. Conversely, however, Cretans are not attested in the sanctuaries of Cyrenaica. Cretan religious identity and the worship of local divinities, such as the cave cults, may have played a role in this lack of Cretans attested in Cyrenaica: they may not have felt the need to sail to Cyrenaica to attend celebrations in foreign, non-Cretan shrines.

Last, the *proxenoi* 'dossier' and the Knossian inscription can be interpreted beyond private relations between a few men from Cyrenaica and a few Cretan city-states. They actually prove intensive commercial and political relations. Besides, the Cyrenaicans known in Gortyn and Knossos belong to the upper-classes: it seems that the wealthiest people of Cyrenaica had more opportunities to become benefactors, and then *proxenoi* and citizens of the Cretan cities, than middle- or lower-class men. This supports Laronde's conclusions (Laronde 1996b) that only the wealthiest men of Cyrene were active and therefore attested abroad, especially in Greece and the Aegean. On the contrary, Sympherousa's epigram may prove the opposite, if Guarducci is right in seeing a slave in this woman. It shows that private, non-official migrations could have taken place outside any political patterns.

### **Common myths and the construction of a shared civic memory in the Imperial period**

Did the fact that Crete and Cyrenaica were united increase the phenomenon of shared myths? Did the Roman administration encourage this trend in an objective to reinforce weakened and virtual relations? The question can be asked when looking at two myths, which may have been rewritten during the Principate.

#### ***The sanctuaries of Asklepios at Balagrae and Lebena***

After Pausanias (2.26.9), it is accepted that the cult of Asklepios was brought from the sanctuary of Balagrae in Cyrenaica (Fig. 3.2) to the

sanctuary of Asklepios in Lebena, on the southern shore of Crete (Fig. 3.3). According to Melfi, Pausanias may have known that story based on the information that Aelius Aristides brought back from his journey in Egypt in AD 142–143 (Melfi 2007, 125–7). And yet, we have no texts that indicate the truth on this matter. Melfi shows that no inscriptions can prove the anteriority of the Libyan sanctuary; she thinks that the filiation is impossible and prefers to see a direct influence from Epidauros on the foundation of the Lebena sanctuary (Melfi 2007, 127–32). My point here is not to discuss this question, but to note that all the information we have about this possible filiation goes back to the Imperial period, with the text of Pausanias. It is therefore not impossible that this myth of a direct translation of the cult of Asklepios from Balagrae to Lebena was a Roman recreation. It would have helped to support the political union between Crete and Cyrenaica. This can be compared to several texts from ancient writers of the Augustan period, which precisely refer to the links between Crete and Africa (Virgil, Ovid, Horace: see references and commentary in Braccesi 2004).



*Figure 3.2 Balagrae Sanctuary, Cyrenaica. Photo by author*





*Figure 3.3 Lebena Sanctuary, Crete. Photo by author.*

### ***Glaukos and the foundation of Aptera***

The 6th century AD lexicographer Stephanus Byzantius, in his chapter on the *polis* of Aptera, explores the myth of its foundation, and reports that a certain Glaukos from Cyrene founded the Cretan city (Capdeville 1995, 43–4). Glaukos is probably the same person mentioned by Homer, Pausanias and Virgil as the son of Antenor who was shipwrecked on the shores of Cyrenaica with Menelaos on their return from Troy (Weicker 1910, 1414–15). At some point, Glaukos would have left Libya and gone to Crete where he founded Aptera. The fact that this legend is reported only during late Antiquity might indicate that the story was a Roman recreation based on ancient mythology. There is no clear evidence for this conclusion, but reassessing their Greek past and developing new myths is a general trend among Greek cities of the Imperial period (Lafond 2006; Konstan and Said 2006; Whitmarsh 2010), especially in Crete (Alcock 2002, 99–131, 179–80). Nothing more can be stated with certainty, but that story may have been a way for both Cretans and Cyrenaicans to build new ties by creating an original, common civic memory.

Crete and Cyrenaica belonged to the Panhellenion League (Spawforth and Walker 1986; Boatwright 2000; Doukellis 2007). The League reinforced the Doric feeling among the Greeks from Cyrenaica: a letter sent by the emperor Hadrian to the people of Cyrene clearly refers to their old Achaian and Dorian ancestry (*SEG* 28.1566; Jones 1996). Hadrian's wish to unite, from a cultural and 'ethnic' point of view, the cities of Greece in an original network must have influenced mythographers in re-writing a few myths: Crete and Cyrenaica may

well have been the subject of such recreations. Through the League and the construction of a shared civic memory in the Roman period, Cretans and Cyrenaicans partially developed a new common identity based on old Doric ties.

### The separation of Crete and Cyrenaica

Even before the separation at the end of the 3rd or at the beginning of the 4th century AD, the province of Crete and Cyrenaica might very well have already been subjected to an important administrative change under Septimius Severus or soon thereafter. Between AD 198 and 211, C. Pomponius Cordius was procurator in Cyrenaica only (*AE* 1969–1970.636). L. Fabius Cilo is said to have been *quaestor Cretae* between AD 204 and 211 (*CIL* VI.1409). It appears that Septimius Severus, sometime between AD 198 and 204, separated the two parts of the province by putting Cyrenaica under the command of a procurator directly appointed by the emperor and in charge of this area only. L. Fabius Cilo was actually *quaestor* of both Crete and Cyrenaica (*CIL* VI.1408), but when the dedication made to him was erected, he kept only the title *quaestor Cretae* in order to update the inscription with the new rules, dismissing his charge in Libya. Suspicion against the Senate, the presence of troops in Cyrenaica – Cordius' statue was consecrated by Valerius Valens, *pra[e]f(ectus) coh(ortis) [I? M]aced(onicae)* – and the increasing number of imperial lands that needed to be well-managed, as well as the wish to ensure administrative performance are the reasons Laronde cites for explaining this separation (1988, 1060). According to him, Severus Alexander cancelled Septimius' reform (Laronde 1985, 50–1, 56), as several inscriptions reveal (e.g., *CIL* XI.6338: C. Luxilius Sabinus Egnatius Proculus, *quaestor Cretae et Cyrenae* in AD 233). After Severus Alexander's reign, the province may have been separated once again. An inscription, carved under Gordian III is the dedication of the statue of Caecilius Felix, procurator of Cyrenaica (*AE* 1969–1970.637). This new separation may have been a decision of the emperor between AD 238 and 244.

Some of the inscriptions mentioned above are badly dated, and a few others I did not mention here also deserve attention. Several scholars (Reynolds 1965; Pautasso 1994–1995) offer more cautious interpretations. Laronde proposed a clear chronology, but the differing dates of these texts may result in a variety of conclusions. This separation-reunion issue calls for a more systematic study, and what

needs to be emphasized is that the double province had gone through several administrative modifications in the first half of the 3rd century AD.

That Crete and Cyrenaica were separated under Diocletian is an incontrovertible fact. The emperor reformed the Empire by separating civil and military powers, and by reducing the provinces' size (Modéran 2003, 82–3). Crete and Cyrenaica were split up between AD 293 and 305, with the former belonging to the diocese of Moesia and then to the diocese of Macedonia, and the latter going to the *diocesis Oriens*. Cyrenaica was also divided into two smaller provinces: *Libya Superior* and *Libya Inferior*, each with its own capital-city and administration (Roques 1987, 74–5).

## General conclusions

Little can be said about the relations between the two parts of the province. The 'dossier' of terracotta lamps, coins, a few inscriptions, and an uncertain interpretation of local myths help to define these relations, but testimonies are too scarce and poorly dated to give a clear picture of whether the union was a success. However, this paper may allow us to draw several general conclusions that I present below: First, the chronology remains obscure. Crete and Cyrenaica appeared to have been united sometime in the middle or second half of the 1st century BC until the beginning of the 3rd or even the beginning of the 4th century AD. This issue has been discussed by several scholars but the question remains open.

Second, commercial exchanges, private migrations, and official relations existed between Crete and Cyrenaica during the Roman era. Evidence for these is limited and based on material such as terracotta lamps and coins. But they should not be neglected, and the two regions were not as ignorant of each other as several scholars thought. Ancient contact, which may go back to Minoan times, explains these relations and supports the fact that the option Rome took to unite them was not arbitrary.

Third, relations seem strong and dynamic just after the union, i.e. during the 2nd half of the 1st century BC and the 1st century AD. Coin circulation, epigraphy, as well as the exportation and imitation of lamps clearly show that the end of the Republic and the early decades of the Principate have to be highlighted. This new interface seems to be in decline from the end of the 1st century AD onwards.

Fourth, the examples discussed in this article give the impression that

the province of Crete and Cyrene remained calm and peaceful during the Empire. Trade, travels, official relations, as well as the possibility of the building of shared myths, make the two parts of the double province a modest but prosperous land, until it is divided in the 3rd or 4th century AD.

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# A context for Knossos: Italian Sigillata stamps and cultural identity across Crete

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## Introduction

This paper examines Italian Sigillata stamps found across the island of Crete as a manifestation of cultural identity. Until now, the record of Italian Sigillata stamps on Crete was the one available for just one city, Knossos, but by adding stamps published or noted from other Cretan locations, we can establish a new working record for the island. Italian Sigillata would have come to Knossos even without its colonial status, to Gortyn even without its administrative position, and to Lappa even without its free status, as it came to other cities and regions of Crete. Italian Sigillata appears on the island not only at other major centres from west to east – Kydonia, Aptera, Eleutherna, and Hierapytna – but also at minor centres such as Hamalevri, Kommos, Lato pros Kamara, and Viannos, and it has been found in field surveys across the island. This study not only increases the total number of published stamps from Crete, but also affects the provenience and chronological record of the Italian Sigillata imported to the island. Comparison with stamps from other cities in the Greek East documents the island's position at the crossroads of patterns of contact and exchange.

This paper analyzes the Italian Sigillata stamps from Knossos and other parts of Crete in order to address a series of fundamental questions about the record for Knossos and Crete as a region in the Greek East (Fig. 4.1): (1) which potters are attested in stamps on Italian Sigillata; (2) what was the provenience of attested potters; (3) what was the chronology of attested potters and which production centres supplied Knossos and Crete over time; (4) what distribution patterns might have brought Italian Sigillata to Knossos and Crete; and (5) why Italian wares might have been imported to Knossos and Crete to supplement local or regional production. The first three questions constitute traditional uses of the evidence available from an analysis of Italian Sigillata stamps (Kenrick 2006, 66–9). The last two go

beyond traditional uses of this material to answer Alcock's call to take chances with the material and thereby take advantage of its ability to testify to patterns of contact and exchange as well as to details of life within the Roman imperial system (Alcock 2006, 585).



Figure 4.1 Distribution of Italian Sigillata stamps across Crete

## A record for Knossos

This section presents an expansion and re-examination of the Knossian record, informed by work completed since a paper published in 2011 (Baldwin Bowsky 2011). Throughout this study, numbers in bold refer to the potters listed in [Appendix 4.1](#) following this paper.

When Ian Sanders' *Roman Crete* was published in 1982, he referred to five Italian Sigillata stamps from Crete, four from Knossos and one from Viannos: stamps of potters **33** and **76** from wells dug during rescue excavations connected with the building of the present Sanatorium just north of Knossos; **58** and **62** from excavations of the Unexplored Mansion at Knossos; and **30** from Viannos (Sanders 1982, 34, 143). Sanders (1982, 34) estimated that Italian Sigillata began to be imported to Crete toward the end of the 1st century BC and up to the mid-1st century AD. In his Gazetteer, he notes Italian Sigillata, which he calls Arretine, at Hierapytna, Milatos and Vrahasi Mirabellou, Amiras Viannou, and Elyros, as well as at Knossos (Sanders 1982, 139, 141, 143, 152, 171). Four other stamps not explicitly mentioned by Sanders were already attested in the scholarship: at Gortyn, Hamalevri, an unknown location in western Crete, and an unknown location in Crete (**26**, **22**, **32**, **9**). By 1982, then, a total of nine Italian Sigillata stamps from Crete had been published: four from Knossos and five from other sites. Knossos did not dominate the record for Crete as it came to do in succeeding decades.

## *The potters attested at Knossos*

In the decades since Sanders' *Roman Crete*, British and Greek excavations at Knossos and in its territory have increased the number of Italian Sigillata stamps from four to 46, a dramatic increase to say the least (Baldwin Bowsky 2011, 118). Of these, Kenrick's edition of the *Corpus Vasorum Arretinorum* included 34 Cretan stamps, all Knossian except one that is of uncertain provenience (OCK, CD-ROM, Summary of Potters Supplying Creta, of which 9 is from an unknown location). Adding the stamps published by Hayes in 1983, Warren in 1988, and Bannou in 2004 brought the total to 46 stamps naming 40 potters (Baldwin Bowsky 2011, 120, table 8.1a).

The stamps that came to light in publication of the Unexplored Mansion excavations in 1992 include six considered 'uncertain,' but Kenrick's 2000 edition of the corpus of Italian Sigillata stamps sheds new light on four of these stamps. One was described as a stamp *in planta pedis* appearing on the floor of a plate and preserving the letters [...]CE[...]; it was supplemented to read [...]CE[II] (Sackett 1992, 144, no. Y10). Kenrick's examination of archive photos of this stamp reveals that it is in a rectangle instead and may well name a Cn. Ateius (11), whose name was followed by a palm that has been partly obscured by the groove (Kenrick, pers. comm.; OCK type 278.29). Cn. Ateius (5) is known to have used rectangular stamps and to have stamped platters and plates of forms 3, 10, 11, 12, 18, 19, and 20, and possibly 4; the number in parentheses after a name like Cn. Ateius is a distinguishing number for entries that share the same name (OCK, 57; OCK, CD-ROM, Review of Forms for Potter No. 278; *Conspectus*, 56–9, 68–73, 82–7). This potter is now attested twice at Knossos (10) as well as elsewhere in the Greek East.

A rectangular stamp with concave ends (called swallow-tailed) impressed on a plate base preserves the letter E at the beginning and DI at the end of the upper of two lines (14). This stamp in all likelihood names Euhodus as a partner of (Cn.) Ateius Crestus (Kenrick, pers. comm.), who used these stamp-types (OCK type 286.10). This pair is known to have stamped platters/plates of form 18 and form B1 bases, as well as other platters and perhaps a plate (OCK, CD-ROM, Review of Forms for Potter No. 286; *Conspectus*, 82–3, 154–5); large platters are typical of an Ateius workshop in Pisa (Kenrick, pers. comm.). Euhodus is further identified as Euhodus (2), who also used this stamp-type (OCK type 787, esp. 787.22); Euhodus (2) is, moreover, is to be identified with Cn. Ateius Euhodus (15),

attested at Knossos and Eleutherna. Stamps of (Cn.) Ateius Crestus and Euhodus are known in the Greek East (1/22, 4.5%), but are far more common in Gaul and Germany (21/22, 95.5%), a pattern associated with Augustan military initiatives (Cooley 2009, 91).

A rectangular stamp impressed on a bowl base may read C. T[ap.] rather than C. I[---], as Sackett suggested (80). Archive photographs examined by Kenrick reveal a triangular interpunct between a C with pronounced serifs and the vertical stroke of a letter, e.g., F, I, P or possibly T (Kenrick, pers. comm.); the line of breakage obscures any trace of a horizontal or curved stroke. Kenrick considers both C. Tap(urius?) and C. Tellius remote possibilities (pers. comm.), but the triangular punctuation makes C. Tap(urius?) marginally more likely. C. Tap(urius?) is known to have used rectangular stamp-types and to have made conical and hemispherical cups of form 33 as well as to have stamped forms B3 and B4 bases (OCK, CD-ROM, Review of Forms for Potter No. 2036; *Conspectus*, 110–1, 160–3); the term ‘Schale’ used throughout the *Conspectus Formarum* can designate either a cup or a bowl (*Conspectus*, 45). This potter’s stamp is attested in Egypt, (1/9, 11.1%) but is found mostly in Germany (1/9, 11.1%) and Spain (3/9, 33.3%), as well as in his native Campania (4/9, 44.4%).

Another stamp *in planta pedis*, impressed twice on a small bowl, names A. M() (39). This potter is known to have stamped cups of form 36 as well as B3 and B4 bases (OCK, CD-ROM, Review of Forms for Potter No. 1059; *Conspectus*, 114–5, 160–3). This potter is, moreover, to be identified with A. Manneius, whose stamps are attested mostly in Italy (13/19, 68.4%) and otherwise in African provinces (5/19, 26.3%). Two stamps of Manneius without a *praenomen* are attested at Knossos (42).

Most recently, Forster has identified five more Italian Sigillata stamps in a study devoted to contextualizing the ceramic evidence provided by the Knossos 2000 Project conducted in 1993–1995 (Forster 2009, I, 86–7, nos 12, 22–5). The first of these is a plate with a central stamp *in planta pedis* (Forster 2009, I, 86, no. 12). The drawing shows the letters LO followed by a letter with a left vertical and strokes to the right, or else toes (Forster 2009, II, 46, fig. 4.2). Possible readings include L. O(), L. Ofillius, and L. O(ctavius) Proc(ulus) (2). L. O() (OCK type 1306) was active in central Italy around AD 15 and after and is known to have stamped cups rather than plates. L. Ofillius (OCK type 1320) was active in central Italy around AD 15 and after and is known to have stamped platters with

base form B1.9, of Augustan–Tiberian date (OCK, CD-ROM, Review of Forms for Potter No. 1320; *Conspectus*, 154–5). L. O(ctavius) Proc(ulus) (2) (OCK type 1316) was active in central Italy around the late-1st century to first half of the 2nd century AD, and is known to have stamped dishes of form 3 and plates or dishes with base form B2.9, of Claudian–Flavian date (OCK, CD-ROM, Review of Forms for Potter No. 1316; *Conspectus*, 156). The rouletting on this plate, which is coarser and less careful in execution than that on plates before the third quarter of the 1st century AD (Kenrick 2002, 148), might suggest L. O(ctavius) Proc(ulus), hitherto unattested on Crete. None of these readings is sufficiently secure to include in [Appendix 4.1](#) or to take into account in the analyses below.

An illegible stamp appears on a cup with a slender foot ring and a central floor stamp *in planta pedis*, surrounded by a groove (91). The shape of the stamp serves only to suggest a date of AD 15+. Further identification of the base of this cup might suggest a *terminus ad quem*, e.g., the Tiberian–Neronian period for form B4 bases or the 1st century and afterward for form B3 bases (*Conspectus*, 160–3).

A third floor fragment with a stamp of uncertain shape begins with the letters CO, followed by a left vertical stroke and a lower right diagonal, possibly below the rounded stroke of an R. Such a stamp could name one of a number of potters: Cor(), Cori(), Corinthus, Cornelius (1), or Cornelius (2) (OCK types 606, 607, 608, 611, 612). Stamps of Cornelius (2) (28) are mostly attributable to P. Cornelius of Arezzo (29); both are already attested at Knossos. A stamp of Corinthus (27) is now known at Aptera. Again, none of these readings is secure enough to include in [Appendix 4.1](#) or to take into account in the analyses below.

A fourth potter is named in a square (or possibly rectangular) stamp with two lines: the first ends with the letters EI, and the second with the letter R. This stamp probably names Cn. Ateius Hilarus (16). Stamps of Cn. Ateius Hilarus that show the formula ATEI/HILAR used stamp-types 100, a plain rectangle with no horizontal dividing element and a plain border, and 261, a rectangle with a horizontal dividing element and no outer border (OCK, 529–30; OCK, CD-ROM, Review of Stamp Types for Potter No. 296); it is difficult to tell whether there was or was not a horizontal dividing element in the Knossian example. Stamps of Cn. Ateius Hilarus, 32 in total, are not attested in the Greek East but are found mostly in Spain, Gaul, and Germany (26/32, 81.3%), a pattern again associated with Augustan



military initiatives; four of these (12.5%) occur in Italy and two (6.3%) are found in Mauretania Caesariensis (OCK, CD-ROM, Distribution of Stamps for Potter No. 296). Four other members of the Ateius group are already attested at Knossos: Ateius (3) (9), Cn. Ateius (5) (10–11), (Cn.) Ateius Crestus in partnership with Euhodus (14), and Cn. Ateius Euhodus (2) (15). Ateius stamps are also attested elsewhere in Crete: Ateius (2) at Eleutherna (8); Ateius (3) at Lappa, an unknown location on Crete, and at Knossos (9); Cn. At(eius) A() at Gortyn and Eleutherna (12); Cn. Ateius Ar() at Lato pros Kamara, Lappa, and Aptera (13); Cn. Ateius Euhodus (2) at Eleutherna as well as Knossos (15); and (Cn.) Ateius Rufus at Eleutherna (17).

A fifth floor stamp, *in planta pedis*, bears the letters C. VEA and names the potter C. Ve() A() (86). This potter is known to have stamped plates and platters of form 3 as well as form B2 bases, cups of form 33 as well as form B3 bases, and a bowl of unspecified shape (OCK, CD-ROM, Review of Forms for Potter No. 2330; *Conspectus*, 110–1, 160–1).

The current working total for Knossos is now 55 stamps that name 46 identifiable potters. For each of seven potters, two stamps are known from Knossos (22, 29, 30, 34, 42, 58, 71); two Knossian potters remain unidentified (90–91). Such a Knossian corpus remains the largest number of stamps from a single Cretan city published to date and constitutes just over one-third of the stamps known from the entire island.

### ***The provenience of potters attested at Knossos (PL 1)***

The provenience of the stamps discovered at Knossos can now be analyzed according to the geographical distribution of production areas: (1) Arezzo and (2) Pisa; (3) Etruria; (4) the Po Valley; (5) central Italy; (6) Puteoli; (7) Lyon; and (8) unknown production centres. Sites separated by slashes (e.g., Arezzo/Pisa or Pisa/Lyon) indicate that the potter worked at more than one site and that there is insufficient information to determine where a particular vessel was made. In the discussion that follows, I will discuss potters rather than stamp numbers; multiple examples of a potter's stamps are indicated in [Appendix 4.1](#).

The provenience of potters attested at Knossos indicates that the wares of 20 potters from Arezzo dominated the market there (5, 7, 21–22, 28–29, 33–35, 39, 42, 49, 62–63, 66, 70, 76–77, 81, 86). By comparison, stamps from Pisa name nine potters (3, 9, 14–16, 64, 68,

79, 89); these and smaller numbers of potters from Arezzo/Pisa/Lyon (10–11), Pisa/Lyon (30) or Etruria (74, 88) reflect (1) Knossian access to the wares of potters who migrated from Arezzo to Pisa to take advantage of access to the sea and maritime resources; (2) access to the wares of potters trained at Arezzo or Pisa who migrated to Lyon to exploit northern and western markets (OCK, 50; Forster 2001, 141); and (3) the beginnings of a movement of stamped sigillatas into Etruria beyond Arezzo and Pisa (Forster 2001, 141; OCK, 37–8, 46). Stamps from the Po Valley (19, 71, 72) came to Knossos from an area that has been identified as one to which Arretine potters expanded in the mid-late Augustan period to take advantage of northern and eastern markets in Noricum, Pannonia, Dalmatia, and Moesia (OCK, 37–8; Zahbelicky-Scheffenegger 2004, 220–1). Stamps from Puteoli are the product of a Campanian production centre active in the first half of the 1st century (31, 37, 58, 75, 80; Forster 2001, 141). Stamps from unknown production centres are also attested at Knossos (18, 24, 67, 78, 87, 90–91).

### *The chronology of potters attested at Knossos (Pl. 2)*

Kenrick has subdivided the production of Italian Sigillata into four unequal periods. Like most eastern sites, all the stamps from Crete, including Knossos, belong to the last three periods: Period B covers the 35 years between 20 BC and AD 15, that is, most of the reign of Augustus; Period C essentially covers the 35 years when Tiberius and Claudius reigned, AD 15–50; and Period D covers up to 100 years after AD 50 (OCK, 36). Despite such apparent precision, stamps *in planta pedis*, which are characteristic of Periods C and D, often defy exact classification, especially when potters have a broad date range or workshops span generations (Kenrick 2006, 68). Of the Knossian stamps considered here, most are in shapes associated with Period B: rectangular (3, 5, 7, 10–11, 14–16, 19, 21, 33, 62, 64, 66, 70, 74–75, 77–78, 80), oval (18, 29), circular (37, 87), in a field (63, 89), and triangular (29). Two stamps *in tabella ansata* that name the same potter are characteristic of Period C (58); one stamp in a crescent is dated to Period C (35), even though most crescent stamps are associated with potters of Period D. Stamps *in planta pedis* are generally dated to the period after AD 15 (9, 22, 24, 28, 30–31, 34, 39, 42, 49, 67–68, 71, 76, 79, 86, 88).

What is most notable about the chronology of the potters attested at Knossos is not only the number of mid- to late-Augustan (Period B)

stamps, but also the budding evidence for stamps datable to the reign of Nero and afterwards (Period D). The stamps found and published thus far allow us to add nuance to Eiring's conclusions about the earliest examples of Italian Sigillata found at Knossos (Eiring 2000, 198; 2004, 71), the rise and culmination of these imports, and their decline. Stamps naming 27 potters belong to Period B (3, 5, 7, 9, 10–11, 14–16, 18–19, 21, 29, 33, 37, 58, 62–63, 66, 70, 74–75, 77–78, 80–81, 87, 89). It is tempting to account for the number of mid-late Augustan stamps at Knossos by attributing this phenomenon to the establishment of the Roman colony soon after 27 BC and to its prosperity. Stamps naming 12 potters can be dated to the Tiberian–Claudian period (24, 28, 30–31, 34–35, 39, 49, 64, 67, 76), and seven to the period around or after AD 50 (22, 42, 68, 71, 79, 86, 88). Five of these seven belong to the reign of Nero in the mid-1st century AD, but we cannot ignore the presence of two later potters (68, 79). Two Knossian stamps remain unidentified and therefore of unknown date (90–91).

If we combine the provenience and chronology of the potters attested at Knossos, we can suggest how the city's supply of Italian Sigillata developed over time. The record shows an evolution in the production centres that supplied Knossos as the Italian Sigillata industry expanded and contracted. In the period that covers most of the reign of Augustus, potters attested at Knossos were particularly active at Arezzo (5, 7, 21, 29, 33, 62–63, 66, 70, 77, 81), but also at Pisa (3, 14–16, 89), Arezzo/Pisa/Lyon (10–11), Etruria (74), the Po Valley (19, 73), Puteoli (37, 75, 80), and at unknown production centres (18, 78, 87). In the Tiberian–Claudian period, Knossos continued to be supplied by potters active at these same centres as well as at Lyon: Arezzo (28, 34–35, 39, 49, 76, 81), Pisa (64), Pisa/Lyon (30), Puteoli (31, 58), and unknown production centres (24, 67). In the mid-1st century AD, potters from Arezzo (22, 42, 86), Pisa (79), and Etruria (88) continue to be named on stamps at Knossos. Two later potters were active at Pisa and in the Po Valley (68, 79).

### ***Distribution patterns for potters attested at Knossos (Pl. 3)***

Both Alcock (2006, 585) and Kenrick (2006, 67) encourage the identification of patterns of contact and exchange from analysis of the provenience of Italian Sigillata stamps from Knossos and Crete. Kenrick (2006, 67) is rightly cautious in noting how the available evidence is dependent on the extent of publication in different regions

and on the coverage of these regions in the *Corpus Vasorum Arretinorum*. The evidence to date nevertheless allows us to postulate trade routes based on the sources and destinations of Italian Sigillata. For Crete, such data has been analyzed for Eleutherna (Baldwin Bowsky 2009, 170–3), Lappa (Baldwin Bowsky and Gavrilaki 2010, 209–12), and Knossos (Baldwin Bowsky 2011, 124–6). In all these cases a supply model based on the grain trade was adopted but has since been replaced with one based on the Italian Sigillata trade (Baldwin Bowsky 2014, 513, n. 43). The products of potters active in workshops with an eastern Mediterranean distribution appear to have been collected at regional and intermediary ports like Pisa or Puteoli, then passed on to similar ones such as Corinth, Alexandria, Antioch, and probably Ephesus (Slane 1989, 224; 2004, 32–6).

Further evidence contributes to identifying patterns of contact and exchange beyond the sources and destinations of Italian Sigillata. Navigational conditions, particularly wind direction and currents, as well as the ceramics imported to Cyrenaica and Tripolitania and also the evidence of written and archaeological sources, coinage, and decorative stones, are analyzed by Fulford (1989, esp. 169–72). For exchange specifically between Crete and Cyrenaica, Gallimore cites literary and epigraphic as well as ceramic evidence, at least through the 1st and into the 2nd century AD (Gallimore 2011, 447–8, 458; also Chevrollier, this volume). Two different supply models of Italian Sigillata, one for Olympia in the Peloponnese and the other for Ephesos in Asia Minor, have been examined by Martin (2006, esp. 175–9). He concluded that Crete, then represented by Knossos, Gortyn, and the area around Lasaia, appears to have been in an intermediate position with respect to Asia and Achaia east of Corinth, in that Italian Sigillata was significant but not dominant, could appear even on a survey site, and was imported throughout the 1st but probably not into the 2nd century AD (Martin 2006, 183).

Crete's economic role in the Mediterranean was complex, as a result of networks of exchange with the entire Mediterranean, including two north–south trade patterns linking Crete with Achaia to its north and with Cyrenaica and Egypt to its south (Fulford 1989, 174–5, 179, figs 5, 7; Kenrick 2010, 3; Gallimore 2011, 458; Chevrollier, this volume). West–east networks of exchange, moreover, connected Crete with Ostia and Puteoli in the 1st century and then Portus, beginning in the early 2nd century AD (Gallimore 2011, 385, 454; Gallimore, this volume). Italian Sigillata could reach Crete from

her north, south, or east, even if not directly from her west, given the evidence against routes that led directly west from Italy to Crete rather than Achaia, Cyrenaica, or Egypt first.

The patterns of contact and exchange suggested by stamps found at Knossos, and heretofore the potters thought to supply Crete, favour north–south routes over west–east routes. The stamps of three potters document the route that linked Crete both with Achaia and with Cyrenaica or Egypt (7, 67, 75), while two comparanda suggest northern connections with Achaia (28, 62), and a further ten suggest southern linkages with Cyrenaica (12, 14) or Egypt (21, 24, 31, 37, 49, 63–64, 80). This last connection is particularly interesting, given Knossos' location on the north rather than the south coast of Crete, but it is also significant to see how much more the comparanda suggest an Egyptian linkage rather than one with Cyrenaica, the other half of the double province of Crete–Cyrenaica. Only one potter's stamp evinces a link purely to Crete's east (79). The best-documented routes are those suggested by eighteen potters attested along both north–south and west–east routes (5, 9, 10–11, 15, 18, 29–30, 34–35, 58, 66, 68, 74, 76–77, 86, 88). Finally, stamps of Camurius (22) provide the ultimate example of this bi-directional distribution.

Thirteen potters from Knossos currently occur nowhere else in the Greek East (3, 16, 19, 32–33, 39, 42, 70–71, 78, 81, 87, 89), but we can note that of those, four name potters with possible connections in the eastern Mediterranean: Amarantus (3), is possibly the same potter as Cn. Ateius Amarantus (OCK type 281) attested in Achaia, Cyrenaica, Egypt; for T. Rufrenus sl. Rufio (70), see T. Rufrenus Rufio (OCK type 1735), who is known in Achaia, Cyrenaica, and Egypt; for L. Tettius sl. Euticus (81), see the slaves of L. Tettius (OCK type 2094), attested in Achaia, Cyrenaica, and Syria/Phoinicia; and for L. Umbricius sl. Felix (87), see the slaves of L. Umbricius (OCK type 2470), attested in Achaia and Cyrenaica. Four of the Knossos stamps name potters also attested at Carthage in the western Mediterranean (33, 42, 78, 89), while five more have no known Mediterranean connection at all (16, 19, 32, 39, 71). Stamps known from Crete and at Carthage should not, however, be attributed to the grain trade, given the absence of a sea route that ran along the southern shore of the Mediterranean from Carthage to Berenice on the way to Alexandria (Fulford 1989, 171). One stamp names an Ateius active at Pisa in the Augustan period (16), whose vessels have been found predominantly in Germany, Gaul, and Spain, once again a pattern

associated with Augustan military initiatives. The two stamps that name potters active in the Po Valley (19, 71) could belong to a distribution pattern resulting from military action along the Rhine and Danube river frontiers (OCK, 32, 37–8). Alternatively, the stamps attested in the Po Valley and along the Rhine and Danube, but not those from Carthage, could be set into the context of the distribution of Cretan wine amphorae (Marangou-Lerat 1995, map 14; Gallimore, this volume). Amphorae of the type called AC4 were both produced at a workshop from the early to mid-1st century AD Herakleion, a port of Knossos, and distributed in the Po Valley and along the Rhine and Danube (Marangou-Lerat 1995, 44, map 12; also Gallimore, this volume).

### ***Reasons to import Italian Sigillata to Knossos***

Ceramic evidence, traditionally an index for tracing ‘Romanization,’ can now be located in the context of involvement in a wider economic system, heralded by the presence of imported pottery and other goods (Alcock 1997, 2, 4). Poblome and Talloen (2004, xii–xiii) have argued that the presence of Italian Sigillata in the Greek East is the result not of cultural diffusion or colonial domination but of ‘self-Romanization,’ as local elite tastes converged with Roman ones and local elites negotiated their own integration into the Roman world (Mattingly 1997, 9–10; Hanson 1997, 67). The diffusion of Italian Sigillata in the Greek East is cited as one manifestation of such a hybrid culture and at the same time a way for individuals and communities to express, communicate, and demonstrate their position in the provincial landscape (Poblome and Talloen 2004, xiii). Among Romanists in the post-colonial era, this phenomenon is no longer read as straightforward evidence of the mass adoption of one material element of Roman civilization (Mattingly 1997, 18; Poblome and Talloen 2004, xiii).

Ceramic evidence can be located in the context of an intricate pattern of empire-wide exchange that involved not only goods, but also people and ideas (Poblome *et al.* 2000, 281–2). The brief ‘tableware boom’ that brought Italian Sigillata onto 1st–2nd century AD tables was an Italian cultural phenomenon that influenced both the western and eastern parts of the empire (Poblome *et al.* 2000, 282). Arezzo exported potters to Gaul and to Asia simultaneously (Poblome *et al.* 2000, 280–1), and in both parts of the empire good quality Italian Sigillata was copied and stamped in a brief period of

imitation and integration (Poblome *et al.* 2000, 281–2). The eastern part of the empire was not, however, monolithic in its reaction to Italian Sigillata (Martin 2006, 183). After the 1st century AD, eastern and western potters developed their own themes based on the original Italian concept to produce later red-slipped wares (Poblome *et al.* 2000, 282). Asia, which manufactured fine tablewares of significant quality, may have gone its own way, but Achaia and Crete apparently did not (Martin 2006, 184).

In the context of a pre-industrial agricultural economy and society like that of the Greek East and Crete in particular, it is important to evaluate local production and patterns in order to understand why a tableware landscape should change, however briefly, in a community or region (Poblome and Talloen 2004, xiii). Cretan patterns of production and imports were, like those in the eastern part of the empire, not monolithic but highly regional. We should examine the available evidence for (1) a decline in local production, (2) the advent of Italian Sigillata at Cretan cities and sites, (3) a contemporary rise in regional production, and (4) the dominance of imported eastern wares over Italian Sigillata from the west (Martin 2006).

The Hellenistic pottery of Knossos consisted of imitations of international shapes and such notable local forms as the cylindrical cup, produced at least until Augustan times (Eiring 2000, 197; 2001, 91–135, esp. 93). Sackett's publication of the Roman pottery from the Unexplored Mansion (Sackett 1992, 163) shows waxing and waning percentages of local wares: 36% Augustan; 46% Tiberian; 36% Claudian; 35% Neronian; 19% Flavian; 23% Trajanic; around 13% Hadrianic. Eiring concluded (2000, 197) that strictly local shapes continued at Knossos during the Roman period, as did the habit of copying international shapes, with the result that 35% of the 1st century AD pottery at Knossos remained local in production. The ceramic record yielded by the Knossos 2000 Project suggests that local potters supplemented imported wares and are represented in declining numbers until the later 2nd century (Forster 2009, I, 229).

In the Greek East, including Crete, the advent of Italian Sigillata has been credited to a number of factors. Sackett's study of the Roman pottery from the Unexplored Mansion excavations (Sackett 1992, 153, 163) suggested a rise in the rate of imports before a decline in the Flavian, Trajanic, and Hadrianic periods: 3% Augustan; 29% Tiberian; 43% Neronian; 21% Flavian period; 18% Trajanic; 7% Hadrianic. Eiring (2004, 71) interpreted the importation of Italian Sigillata at the

colony of Knossos, later than the founding of the colony would suggest, as part of a general vogue in the eastern Mediterranean. In the context of recovery from the disastrous impact of the civil wars on the east, imported ceramics could fill the gap between local production and growing demand, as Roman status became increasingly desirable or accessible (Slane 2004, 40–1; Poblome 2004, 29). Across the Mediterranean, members of Graeco-Italian communities – e.g., *mercatores*, *coloni*, and other settlers, and a rising sub-elite class in *civitates* along the sea coasts – responded to social pressure and a desire for Italian-style artefacts, coupled with sheer availability and affordability by buying Italian as well as eastern sigillatas (Menchelli 2004, 276).

Martin (2006, 182, 184) suggests eastern wares as the pottery that replaced Italian Sigillata in Crete, as in Achaia east of Corinth. Between 50 BC and the mid-2nd century AD, eastern sigillatas developed alongside Italian Sigillata and were exported throughout the Aegean area, including Crete, as indicated by the results of the Unexplored Mansion excavations (Malfitana 2002, 140–1, 154). Sackett concluded that Eastern Sigillata B (ESB) was imported to Knossos from the Tiberian period onwards, overtook Italian Sigillata by the third quarter of the 1st century AD, and peaked in the Hadrianic period: 16% Tiberian; 27% Claudian; 42% Neronian; 48% Flavian; 43% Trajanic; 57% Hadrianic (Sackett 1992, 156, 163). Eastern Sigillata B was present at Knossos in the early 1st century AD (Forster 2001, 143); Knossos was not the only place on Crete to which ESB was exported, but the Unexplored Mansion excavations have resulted in systematic publication (Sackett 1992, 143–246; *SEG* LII.868).

### **A working record for Crete**

To the 55 Italian Sigillata stamps now published from Knossos, we can add nine stamps from Gortyn, 23 from Eleutherna, 21 from Lappa, 39 from Aptera, and eight from other scattered or unknown locations on the island, for a total of 155 stamps ([Appendix 4.1](#)). This increased corpus makes it possible to establish a new working record for the island. Adding these stamps does more than quadruple the size of the Cretan corpus available in the *Corpus Vasorum Arretinorum* or triple the size of the corpus now known from Knossos, but the ultimate question is whether this study will further revise the provenience and chronology of the Italian Sigillata imported to Crete.



### ***The potters attested on Crete (Pl. 4)***

We can first take note of which potters are attested across Crete, and not only at Knossos as above. Identifiable potters new to the Cretan record are known at Gortyn, Eleutherna, Lappa, Aptera, Kydonia, Hierapytna, Lato pros Kamara, and at an unknown location in western Crete. Publication of the Italian Sigillata stamps from the provincial capital at Gortyn and scattered or unknown locations added the names of eight potters (4, 12, 26, 32, 52–53, 61, 69). Italian Sigillata stamps published from Eleutherna, west of Mt Ida, yielded ten new potters' names for the Cretan record (6, 8, 17, 25, 41, 43, 47, 56, 72, 82). Stamps from the free city of Lappa named eight more (13, 36, 44, 46, 48, 65, 73, 85), while those from Aptera produced eleven (20, 23, 27, 40, 45, 50–51, 57, 59–60, 84). Eight potters whose names cannot be determined appear on stamps from Eleutherna (38), Lappa (54, 83), and Aptera (1–2, 55, 92–94).

Particular attention should be given to multiple examples and workshops as well as to new examples of previously attested stamps. Ten potters are attested in multiple examples of stamps at Knossos and elsewhere in Crete: at Gortyn, Kommos, Viannos, Eleutherna, Hamalevri, Lappa, Aptera, and at unknown locations (7, 9, 15, 18, 22, 24, 30, 34–35, 68). Three more potters are known from multiple examples not at Knossos but at Gortyn, as well as at Lato pros Kamara, Eleutherna, Lappa, and Aptera (12, 52, 61). We can also consider workshops represented by single examples imported to different cities. While it is not often possible to suggest an exact relationship between potters who bear the same *nomen*, there are other factors – geographical, chronological, and stylistic – that encourage us to consider them together (6–7, 14–15, 25–26, 28–29, 34–35, 62–63). Shared *nomina* and even *praenomina*, as well as geographical and chronological patterns, also encourage us, in particular, to consider the (Cn.) Ateii and the Sex. Murrii. The number of Ateii attested (8–17), with or without the *praenomen* Cn. and with or without a *cognomen*, is notable, as their products were most prolific in the western Mediterranean rather than in the Greek East. Four Sex. Murrii (50–53), well attested in the eastern Mediterranean, were probably all freedmen of the same person and were active in one or more workshops at Pisa (Pucci 1980, 140).

### ***The provenience of potters attested on Crete (Pl. 5)***

We should now ask how the provenience of potters attested across

Crete can be compared with that for the potters who supplied Knossos. This traditional question can contribute to a discussion of what provenience might mean in a particular social context like that of Roman Crete (Kenrick 2006, 66–7; Alcock 2006, 584). In addition to the sources of Italian Sigillata already attested at Knossos, central Italy contributed to the provenience of potters attested on the whole island. Central Italy, from which stamps are attested at Gortyn, Eleutherna, and Lappa, became a dominant production area in the period after AD 50 (OCK, 38), just when the Campanian production at Puteoli became less active.

Imports to Knossos were dominated by Arezzo, but the provenience of potters currently attested on the whole island suggests that 19 potters from Pisa (3, 9, 12–17, 50–53, 60–61, 64, 68, 79, 89) gained market share across the island, even though 28 potters from Arezzo retained their larger share (4–8, 20–22, 25–26, 28–29, 33–35, 39, 42, 46, 49, 62–63, 66, 70, 76–77, 81–82, 86). One potter active at Arezzo/Pisa/Lyon (10–11), two in Etruria (74, 88), one at Pisa/Lyon (30), four in the Po Valley (19, 71–73), as well as six potters from central Italy (45, 56–57, 65, 69, 84), and seven from Puteoli (27, 31, 37, 41, 58, 75, 80) reflect Cretan access to the expanding Italian Sigillata industry. Fifteen potters are still of unknown provenience (18, 23–24, 32, 36, 40, 43–44, 47–48, 59, 67, 78, 85, 87). In this island-wide record, we can still take note of the fact that Knossos has yielded the only Etrurian stamps, three of the five Po Valley stamps (60%), and five of the eight Puteolan stamps (62.5%). It is again tempting to account for these phenomena by attributing them to Knossos' position as the only Roman colony on the island.

### *The chronology of potters attested on Crete (Pl. 6)*

The chronology of potters currently attested on the whole island suggests that Crete imported Italian Sigillata until the end of the 1st and beginning of the 2nd centuries AD. Over time, Knossos ceased being the dominant importer of Italian Sigillata, while Gortyn, centres in western Crete, and scattered or unknown locations constituted increasingly larger components of the Cretan market. In the mid–late Augustan period (Period B), stamps naming 32 potters were imported to Crete (3, 5, 7–11, 14–16, 18–19, 21, 29, 33, 36–37, 41, 62–64, 66, 70, 73–75, 77–78, 80–81, 87, 89). In the Tiberian–Claudian period (Period C), Crete imported the stamped sherds of 29 potters (4, 6, 15, 17, 20, 24, 27–28, 30–31, 34–35, 39, 44–49, 56–59, 64, 67,

72, 76, 84–85). In the post-Claudian period (Period D), Crete imported the wares of 22 potters (4, 6, 15, 17, 20, 24, 27–28, 30–31, 34–35, 39, 56–57, 59, 64, 67, 72, 76, 84–85). Eight of these Period D potters can be dated to the mid-1st century AD, as at Knossos (12, 22–23, 42–43, 71, 86, 88); the remaining 13 are later potters now attested on Crete (25–26, 40, 50–53, 60–61, 65, 68–69, 79). The stamps of three potters are not securely dated (32, 82–83).

These chronological patterns are again a corollary of the development of the Italian Sigillata industry, as Pisa joined Arezzo and central Italy began to take over from Puteoli. As in the record for Knossos above, the variety of production centres supplying Crete changed over time as the industry expanded and contracted. The mid-late Augustan period (Period B) saw a great variety of production centres: Arezzo most of all (5, 7–8, 21, 29, 33, 62–63, 66, 70, 77, 81), followed by Pisa (3, 9, 14–16, 89); Arezzo/Pisa/Lyon (10–11); Etruria (74); the Po Valley (19, 73); Puteoli (37, 41, 75); and unknown locations (18, 36, 78, 87). In the Tiberian–Claudian period (Period C), nearly as many production centres, with central Italy in place of Arezzo/Pisa and Etruria, supplied Crete: Arezzo (6, 20, 28, 34–35, 46, 49, 76, 81); Pisa (12, 17, 64); Pisa/Lyon (30); the Po Valley (72); central Italy (45, 84); Puteoli (27, 31, 58); and unknown locations (22, 44, 48, 59, 67, 85). In the post-Claudian period (Period D), Pisa (12, 50–53, 60–61, 68, 79) replaced Arezzo (23, 25–26, 42, 86) as the leading supplier, followed by Etruria (88), the Po Valley (71), central Italy (69) rather than Puteoli, and unknown locations (23, 40, 43). Of these nine are makers of late Italian Sigillata (25, 26, 50–53, 60–61, 68).

### *Distribution patterns for potters attested on Crete (Pl. 7)*

The multiple examples of stamps identified across Crete suggest that Knossos dominated distribution patterns within the island and was a distribution centre on the north coast, while Gortyn played a less well-documented role and was a distribution centre on the south coast. This does not exclude the possibility that there were other distribution centres in the eastern or western reaches of the island, on the north or south coast. Winds and currents particularly connected eastern Crete with the Peloponnese, northwest Crete with Cyrenaica, and south-central and northeast Crete with Egypt (Fulford 1989, 170–1, figs 2, 3). The evidence of coastal amphora production facilities will add additional possibilities on both the north and south coasts.

The distribution of identifiable stamps from the whole island again favors patterns that linked Crete both with Achaia and Macedonia to her north and with Cyrenaica or Egypt to her south (7, 27, 36, 49, 63, 67, 75). What is most noteworthy is the increased evidence in favor of routes that linked Crete with Egypt, or less frequently with Cyrenaica, despite the fact that Knossos, Eleutherna, Lappa, and Aptera are all on the north coast of the island. We can take note of five potters attested on Crete and attested elsewhere only in Achaia (23, 44, 46, 62, 65). By comparison, 14 potters attested on Crete are paralleled in Egypt (6, 17, 21, 24, 31, 37, 41, 48, 64, 80) or Cyrenaica (12, 14, 47, 59).

Areas to the east of Crete parallel significantly fewer of the stamps known from the island, but we should nevertheless take note of two potters attested only to its east (51, 79). Again, the best documented routes are those that illustrate Crete's position at the crossroads of north-south and west-east patterns of contact and exchange (5, 9-11, 13, 15, 18, 25-26, 29-30, 34-35, 40, 50, 52-53, 58, 60-61, 66, 68-69, 74, 76-77, 86, 88); the stamps of Camurius (22) continue to constitute the ultimate example of such a distribution. One unexpected result of analyzing the distribution patterns for potters attested on Crete is the number of stamps paralleled on Cyprus, particularly at Paphos (22, 50-53, 60-61, 68). As a result, the number of comparable stamps found on Cyprus is unexpectedly high, fourth after Achaia, Egypt, and Cyrenaica.

To the 13 potters thus far attested only at Knossos in the Greek East, we can now add up to 13 more known for the first time in the eastern Mediterranean. It is worth noting that the readings for six of these names are not certain (45, 56-57, 72-73, 85), but of the remaining seven, two are slaves known from single stamps preserved in Italy, while other slaves of the same workshops are attested in the Greek East: for C. Gavius sl. Homullus (32), see C. Gavius (OCK type 869) at Corinth and C. Gavi Menolaos (OCK type 873) in Egypt; for L. Titius sl. C(h)ryseros (82), see L. Titius (OCK type 2003) in Cyrenaica and Egypt; slaves Chrestio (OCK type 2209), Domesticus (OCK type 2216), and Romanus (OCK type 2234) in Egypt; Chrestio and Suavis (OCK type 2236) at Corinth; and Chrestio, Domesticus, and Suavis in Asia. Two of these potters are attested in the western Mediterranean, at Carthage (8, 43). Three more remain known predominantly in the Italian peninsula and in Spain, Gaul, and Germany, a distribution considered characteristic of Augustan military initiatives: C. Annius

(4), known from stamps in the Italian peninsula (54%) as well as in Spain, Gaul, and Germany (41%); C. Cae() Clemens (20), whose stamps have a very limited distribution, dominantly in Italy; C. VO VO (84), three of whose four stamps are from Rome while the fourth is from Spain. Such variety appears to be due not only to Knossos' status as the only Roman colony on the island, but also to Crete's position amid patterns of trade and contact within the Roman Mediterranean.

### ***Reasons to import Sigillata to Crete***

In order to evaluate the importation of Italian Sigillata across the island, we should continue to examine the evidence available for (1) declines in local production, (2) the advent of Italian Sigillata, (3) a contemporary rise in eastern production, and (4) the dominance of imported eastern wares over Italian Sigillata. We can begin by tracing declines in local production chronologically, from the early 1st century BC or beginning of the Roman period to the Augustan period and as late as the last third of the 1st century AD.

Local production up to the early 1st century BC, or the beginning of the Roman period, has been analyzed for three cities north of the White Mountains and west of Mt Ida and one in eastern Crete: Aptera, Lappa, Eleutherna, and Hierapytna. At Aptera, good-quality pottery dating to the beginning of the Roman period was found, including Cretan lamps, wine jugs, and other shapes (Niniou-Kindeli and Tzanakaki 2011, 566–75). At Lappa, a Hellenistic-Roman house yielded lamps dated to the beginning of the 1st century BC (Gavrilaki, pers. comm.). A kiln excavated at Lappa contained stamped *instrumenta domestica*, including a sherd of Augustan Italian Sigillata that names the same potter as 74 (Giokaridaki-Skandali 2011). House A at Nesi (Eleutherna, Sector II) produced drinking vessels that were made locally from the 3rd to early 1st centuries BC (Furtwängler 1994, 131–4). Hellenistic buildings in Eleutherna's Sector I include a complex that may have been a temple, now beneath the early Byzantine basilica, where pottery included vases made in local workshops and dated between the 3rd and early 1st century BC (Themelis 2002, 41; 2004, 53–4). From the Augustan period onwards, the record at Hierapytna in southeastern Crete may suggest a decline in local production; it is difficult to distinguish here between Cretan finewares of late-Hellenistic and early Romano-Cretan date, as they were produced in ever-decreasing quantities from the Augustan period onward (Gallimore 2011, 244–5).

As late as the last third of the 1st century AD, evidence of local production is preserved at Gortyn, the provincial capital in central Crete. The Hellenistic pottery of Gortyn is difficult to assess, but recent publications may suggest some characteristics of the local tableware landscape during the period when Italian Sigillata was on the market. Local black-glazed production ceased during the 1st century BC (De Tommaso 2001a, 2–17, esp. 4–5; 2001b, 21–4, esp. 23). Dull brown-red glazed wares and local products inspired by Eastern Sigillata A are well-documented at Gortyn as well as on Crete in the last third of the 1st century AD (Papadopoulos 1999, 194–241, esp. 194–5, 198–9).

The advent of Italian Sigillata outside Knossos is traced in the statistics assembled for a study of these wares at Aptera (Baldwin Bowsky 2014, 520, table 4). This advent at centres and in regions across Crete does not, however, correlate to what is known about declines in local production. After Knossos' strong showing in the Augustan and Tiberian–Claudian periods, Eleutherna, Lappa, and Aptera appear to have imported more wares dated to the Tiberian–Claudian period than to the Augustan. Stamps from scattered or unknown locations are concentrated within the Tiberian–Claudian and post-Claudian periods. It is Gortyn and Aptera that make the strongest showing in the final period of Italian Sigillata, from AD 50–150.

For the source of pottery that replaced Italian Sigillata beyond Knossos, Malfitana includes finds from Gortyn, Lasaia, and Aphrati, as well as Knossos in his quantitative analysis of eastern sigillata in the eastern Mediterranean (Malfitana 2002, 136, 140), where Knossos is again dominant as a result of the publication of the Unexplored Mansion excavations. Recent studies of stamps on Italian and eastern sigillata stamps found on Crete include one example of ESB1, the finer, earlier class, from Lappa, and another from Aptera (Baldwin Bowsky and Gavrilaki 2010, 226, no. 33; Baldwin Bowsky 2014, 554, no. 40).

The current distribution of potters' stamps shows that Crete was well situated within a large, complex trade pattern within the eastern Mediterranean. It is tempting to attribute stamps not attested in this region to the movement of individuals rather than to patterns of contact and exchange. In the period during which Italian Sigillata was produced and imported to Crete, amphora production facilities were concentrated along the north coast of Crete more than the south: Kastelli Kissamou and Nopigia (Marangou-Lerat 1995, 37, 39);

Herakleion (Marangou-Lerat 1995, 44); Chersonisos (Marangou-Lerat 1995, 44–8, 63–4); and Trypitos (Marangou-Lerat 1995, 48). The distribution of Cretan wine amphorae illustrates the other side of the commercial network from Italian Sigillata, as Cretan goods travelled not only north–south and west–east in the eastern Mediterranean, but east–west to the Italian peninsula, including the Po River Valley and the Rhine and Danube River frontiers (Marangou-Lerat 1995, map 14; Marangou 1999, 277, fig. 4; also Gallimore, this volume).

Cities on both the north and south coasts could have been centres of redistribution for the island, given their positions along north–south patterns of contact and exchange that linked Crete with Achaia and with Cyrenaica or Egypt. Gallimore (2011, 148–9) identifies Kissamos and Chersonisos on the north coast together with Hierapytna on the south as the three great ports of Crete, due to their position along north–south and west–east trade routes. Between the north and south coasts of Crete, in turn, trans-shipment of goods via a well-organized road system is attested (Gallimore 2011, 153). We can take particular note of routes of transit and communication that linked Lissos and Kissamos in western Crete, Eleutherna and Soulia west of Mt Ida, Gortyn and Knossos in central Crete, Chersonisos and Viannos west of Mt Dikte (Baldwin Bowsky and Niniou-Kindeli 2006, 429–30). To judge from the distribution of multiple examples of stamps across the island, there just may have been multiple centres of redistribution not only at Knossos or Gortyn, but also at other centres along the north or south coast and at either end of north–south overland routes of communication and transit.

### **A context for Knossos**

We are now in a position to consider whether the importation of Italian Sigillata to Knossos and across Crete constitutes evidence for the cultural identity of the island and its inhabitants. Tablewares are not monumental expressions of identity but an aspect of material culture that was easier and more affordable to adopt than architecture or town planning. On the one hand, we can argue that Italian Sigillata was more significant on Crete than Martin had thought, as it (1) appears not only at major centres, but also at minor centres as well as on survey sites across the island, and (2) was imported beyond the 1st century into the 2nd century AD. Italian Sigillata would have come to Knossos even without its colonial status, to Gortyn even without its administrative position, and to Lappa even without its free status. It

appears to have been popular at Hierapytna, Eleutherna, and Aptaera, three cities renaissant in the Roman period. We should look for additional evidence from such major centres as Lyttos and Kydonia, from ports like Herakleion, Chersonisos, and Kissamos, and from minor centres and in field surveys.

On the other hand, the evolving mix of tablewares – local, Italian, and eastern – suggests that by the early to mid-2nd century AD, Knossos and Crete as a region experienced not so much acculturation as a return to the *status quo ante* (Baldwin Bowsky 2011, 129). The eastern orientation of Crete is evident not only in the persistence of Greek as the dominant language (Baldwin Bowsky 2004), as clearly indicated by the island's Roman inscriptions, but also in the island's membership in the Panhellenion, an artificial supra-provincial community of bona fide Greeks (Spawforth and Walker 1985, 79–80; Spawforth 1999, esp. 347–50; see also Boatwright 2001; Romeo 2002; Doukellis 2007), and in the fine wares Knossians and Cretans set on their tables.

#### **Appendix 4.1: alphabetical register of potters attested on Crete, including Knossos**

This alphabetical register is based on Baldwin Bowsky 2014, 556–65, Appendix), to which we can add Sackett 1992 (144, nos Y10, Y15, Y22; 145, nos Y26, Y34; 146, no. Y55); and Forster 2009 (I, 87, nos 24–5). Each entry gives the potter's name and the shape(s) of stamp(s), the OCK reference, provenience and chronology, Cretan location(s) and corresponding bibliographical references, and finally the number and percentage of examples in OCK that are attested in parts of the Greek East.

1. A[...], possibly *in planta pedis*; too badly broken to identify; Aptaera (Baldwin Bowsky 2014, 531, no. 1)
2. AVN, *in planta pedis*; not yet identified; Aptaera (Baldwin Bowsky 2014, 531–2, no. 2)
3. Amar(antus), in rectangle; OCK type 83, Pisa?, AD 1+; Knossos (Sackett 1992, 144, no. Y17); 1/17 (5.9%) in Crete
4. C. An(nius), *in planta pedis*; OCK type 127 or 128, Arezzo, 15 BC–



- AD 5; Gortyn (Rizzo 2004, 186, no. 292, without illustration); hitherto unattested in the Greek East
5. Sex. Annius (1), in rectangle; OCK type 183, Arezzo, 20 BC–AD 10; Knossos (Sackett 1992, 144, no. Y19); 14/219 (6.4%) in Crete, Achaia, Egypt, Syria/Phoenicia, Judaea
6. Arvius, in rectangle and *in planta pedis*; OCK type 252, Arezzo, 15 BC–AD 15 + ; Eleutherna (Baldwin Bowsky 2009, 183–4, no. 19); 1/19 (5.3%) in Egypt
7. C. Arvius, in rectangle and *in planta pedis*; OCK type 254, Arezzo, 15 BC–AD 15 + ; Knossos (Sackett 1992, 144, no. Y16), Eleutherna (Baldwin Bowsky 2009, 183, no. 18); 8/75 (9.3%) in Crete, Achaia, Egypt
8. Ateius (2), in rectangle; OCK type 267, Arezzo, 15–5 BC; Eleutherna (Baldwin Bowsky 2009, 177, no. 3); hitherto unattested in the Greek East
9. Ateius (3), in rectangle and *in planta pedis*; OCK type 268, Pisa, 15 BC–AD 30; Knossos (Sackett 1992, 146, no. Y52), Lappa *bis* (Baldwin Bowsky and Gavrilaki 2010, 229, nos 44–45), unknown location (Holwerda 1936, 40, no. 511); 11/862 (1.3%) in Crete, Achaia, Egypt, Cyrenaica, Cilicia
10. Cn. Ateius (5), in rectangle; OCK type 278, Arezzo/Pisa/Lyon, 15 BC–AD 50 + ; Knossos (Warren 1988, 91); 16/235 (3.7%) in Achaia, Egypt, Cyrenaica, Asia, Arabia
11. Cn. Ateius (5)?, in rectangle; cf. OCK type 278.29, Arezzo/Pisa/Lyon, 15 BC–AD 50 + ; Knossos

- (Sackett 1992, 144, no. Y10);  
16/235 (3.7%) in Achaia, Egypt,  
Cyrenaica, Asia, Arabia
12. Cn. At(eius) A(), in rounded-ended  
frame and *in planta pedis*; OCK type  
279, Pisa, AD 30–80; Gortyn  
(Martin 2006, 184, fig. 6),  
Eleutherna (Kelly 2012, 466, fig.  
4); 2/49 (4.1%) in Cyrenaica
13. Cn. Ateius Ar(), *in planta pedis*;  
OCK type 282, Pisa, AD 30–80;  
Lato pros Kamara (Zographaki,  
pers. comm.), Lappa (Baldwin  
Bowsky and Gavrilaki 2010, 229,  
no. 46), Aptera (Baldwin Bowsky  
2014, 533, no. 3); 2/47 (4.3%) in  
Achaia, Judaea
14. (Cn.) Ateius Crestus + Euhodus, in  
rectangle with concave ends; OCK  
type 286, Pisa, 5 BC–AD 25;  
Knossos (Sackett 1992, 144, no.  
Y15; compare Sackett 1992, 198,  
C1, 14); 1/22 (4.5%) in Cyrenaica
15. Cn. Ateius Euhodus (2), in  
rectangle and in rounded-ended  
frame; OCK type 292, Pisa, 5 BC–  
AD 25; Knossos (Sackett 1992,  
144, no. Y14), Eleutherna (Kelly  
2012, 466, fig. 3); 10/143 (7.0%)  
in Crete, Egypt, Cyrenaica, Asia,  
Cilicia, Arabia
16. Cn. Ateius Hilarus, in rectangle;  
OCK type 296, Pisa, 5 BC–AD 10;  
Knossos (Forster 2009, I, 87, no.  
24); hitherto unattested in the  
Greek East
17. (Cn.) Ateius Rufus, *in planta pedis*;  
OCK type 310, Pisa?, AD 15 + ;  
Eleutherna (Baldwin Bowsky 2009,  
178, no. 5); 2/11 (18.2%) in Egypt
18. Avillius, in oval and *in planta pedis*;  
OCK type 371, unknown  
provenience, 20 BC–AD 40;  
Knossos (Sackett 1992, 144, no.

- Y8), Eleutherna (Baldwin Bowsky 2009, 178, no. 4); 33/168 (19.6%) in Crete, Achaia, Cyrenaica, Syria/Phoenicia
19. Bassus (1), in rectangle; OCK type 435, Po Valley, 10 BC–AD 10; Knossos (Sackett 1992, 144, no. Y23); 1/16 (6.3%) in Crete
20. C. Cae() Clem(ens), *in planta pedis*; OCK type 475, Arezzo, AD 30 +; Aptera (Baldwin Bowsky 2014, 533, no. 4); hitherto unattested in the Greek East
21. Calidius (Strigo) (1), in rectangle; OCK type 487, Arezzo, 15 BC–AD 5; Knossos (Sackett 1992, 144, no. Y24); 4/42 (9.5%) in Crete, Egypt
22. Camurius, in rounded-ended frame and *in planta pedis*; OCK type 514, Arezzo, AD 30–70; Knossos *bis* (Warren 1988, 91; Sackett 1992, 146, no. Y50), Hamalevri (Hood *et al.* 1964, 62–3, n. 15), Eleutherna (Baldwin Bowsky 2009, 180, no. 9), Lappa (Baldwin Bowsky and Gavrilaki 2010, 226, no. 34); 86/368 (23.4%) in Crete, Macedonia, Achaia, Egypt, Cyrenaica, Asia, Cyprus, Syria/Phoenicia, Judaea, Arabia, Barbaricum Orientale
23. Q. Castr(icius) Ve(), *in planta pedis*; OCK type 524, unknown provenience; AD 50 +; Aptera (Baldwin Bowsky 2014, 533, no. 5); 8/43 (18.6%) in Achaia
24. Chrestus (2), *in planta pedis*; OCK type 553, unknown provenience, 15 BC–AD 15 +; Knossos (Sackett 1992, 144, no. Y1), Aptera (Baldwin Bowsky 2014, 533–5, no. 6); 2/24 (8.3%) in Crete, Egypt
25. Clod(ius) Proc(ulus), *in planta pedis*; OCK type 587, Arezzo, AD

- 40–100; Eleutherna (Baldwin Bowsky 2009, 181, no. 13); 10/47 (17.8%) in Achaia, Asia
26. P. Clod(ius) Proc(ulus), in *planta pedis*; OCK type 592, Arezzo, AD 40–100; Gortyn (*IC* IV.542; Chaniotis and Preuss 1990, 195, no. 8); 24/135 (17.8%) in Achaia, Cyrenaica, Asia, Cyprus, Judaea
27. Corinthus, in *planta pedis*; OCK type 608, Puteoli, AD 1–30 + ; Aptera (Baldwin Bowsky 2014, 533, no. 7); 4/20 (20%) in Achaia, Cyrenaica
28. Cornelius (2), in *planta pedis*; OCK type 612, Arezzo, AD 10–50 + ; Knossos (Sackett 1992, 144, no. Y7); 9/94 (9.6%) in Crete, Achaia
29. P. Cornelius (2), in oval and in triangle; OCK type 624, Arezzo, 5 BC–AD 40; Knossos *bis* (Warren 1988, 90; Sackett 1992, 144, no. Y3); 8/199 (4.0%) in Crete, Achaia, Egypt, Judaea
30. Crestus (1), in trefoil and in *planta pedis*; OCK type 698, Pisa/Lyon, 10 BC–AD 30; Knossos *bis* (Sackett 1992, 144, no. Y11; 145, no. Y30), Viannos (Hood, *et al.* 1964, 87, and n. 42), Eleutherna (Baldwin Bowsky 2009, 177, no. 1), Aptera (Baldwin Bowsky 2014, 535, no. 8); 20/369 (5.4%) in Crete, Achaia, Cyrenaica, Egypt, Syria/Phoenicia
31. Ennius, in *planta pedis*; OCK type 761, Puteoli, AD 1 + ; Knossos (Hayes 1983, 132, no. 203); 3/13 (23.1%) in Egypt
32. C. Gavius, slave Homullus, in rectangle; OCK type 872, unknown provenience, unknown chronology; western Crete (*IC* II.xxx.18); hitherto unattested in the Greek

33. East  
C. Gavius Summacus, in rectangle;  
OCK type 875, Arezzo?, 10 BC–AD  
10; Knossos (Hayes 1971, 264, no.  
16); 1/10 (10%) in Crete
34. Gellius, *in planta pedis*; OCK type  
878, Arezzo?, AD 10–50; Knossos  
*bis* (Sackett 1992, 144, no. Y5;  
Bannou 2004, 897, no. 22), Lappa  
(Baldwin Bowsky and Gavrilaki  
2010, 226, no. 35); 16/343 (4.7%)  
in Crete, Achaia, Egypt, Asia,  
Cilicia, Syria/Phoenicia
35. L. Gellius, in crescent and *in planta  
pedis*; OCK type 879, Arezzo?, 15  
BC–AD 50; Knossos (Sackett 1992,  
145, no. Y36), Eleutherna  
(Baldwin Bowsky 2009, 179–80,  
no. 8); 22/563 (3.9%) in Crete,  
Macedonia, Achaia, Egypt,  
Cyrenaica, Cilicia
36. Hilarus, in rectangle; OCK type  
953, unknown provenience, 20  
BC–AD 10; Lappa (Baldwin  
Bowsky and Gavrilaki 2010, 229,  
no. 47); 3/67 (4.5%) in Achaia,  
Egypt
37. M. Iulius, in circle; OCK type 998,  
Puteoli, 10 BC–AD 10; Knossos  
(Sackett 1992, 145, no. Y28); 4/12  
(33.3%) in Crete, Egypt
38. L. [...], too broken to identify;  
Eleutherna (Baldwin Bowsky 2009,  
183, no. 17)
39. A. M(), *in pedis plantis*; OCK type  
1059, Arezzo, AD 30 + ; Knossos  
(Sackett 1992, 145, no. Y34);  
hitherto unattested in the Greek  
East
40. C. M() R(), *in planta pedis*; OCK  
type 1067, unknown provenience,  
AD 50 + ; Aptera *bis* (Baldwin  
Bowsky 2014, 535–6, nos 9–10);  
15/108 (13.9%) in Achaia, Egypt,

41. Asia, Cilicia  
Maecius, slave Valens, in rectangle;  
cf. OCK types 1080–1081, Puteoli,  
10 + BC; Eleutherna (Baldwin  
Bowsky 2009, 180, no. 10); 2/5  
(40%) in Egypt
42. Manneius, *in planta pedis*; OCK  
type 1099, Arezzo, AD 30–70;  
Knossos *bis* (Sackett 1992, 144, no.  
Y2; 145, no. Y32); 2/77 (2.6%) in  
Crete
43. C. Mar(ius), *in planta pedis*; OCK  
type 1113, unknown provenience,  
mid-1st century AD; Eleutherna  
(Baldwin Bowsky 2009, 182, no.  
15); hitherto unattested in the  
Greek East
44. C. Marcius, *in planta pedis*; OCK  
type 1118, unknown provenience,  
AD 15 + ; Lappa (Baldwin Bowsky  
and Gavrilaki 2010, 250, no. 48);  
2/9 (22.2%) in Achaia
45. Meno(), *in planta pedis*; OCK type  
1164? central Italy? AD 15 + ;  
Aptera (Baldwin Bowsky 2014,  
537, no. 11); hitherto unattested in  
the Greek East
46. Metilius, *in planta pedis*; OCK type  
1176, Arezzo?, AD 30 + ; Lappa  
(Baldwin Bowsky and Gavrilaki  
2010, 250, no. 49); 2/9 (22.2%) in  
Achaia
47. L. Milit(ius), in rectangle; OCK  
type 1183, unknown provenience,  
AD 15 + ; Eleutherna (Baldwin  
Bowsky 2009, 177, no. 2); 1/4  
(25%) in Cyrenaica
48. C. Murius, *in planta pedis*; OCK  
type 1200, unknown provenience,  
AD 15 + ; Lappa (Baldwin Bowsky  
and Gavrilaki 2010, 250, no. 50),  
Aptera (Baldwin Bowsky 2014,  
537, no. 12); 1/19 (5.3%) in Egypt
49. C. Murrius, *in planta pedis*; OCK

- type 1203, Arezzo, AD 1–30 + ;  
Knossos (Warren 1988, 91); 4/136  
(2.9%) in Achaia, Egypt
50. Sex. M(urrius) Cal(), *in planta pedis*; OCK type 1210, Pisa, AD 80–100 + ; Aptera *bis* (Baldwin Bowsky 2014, 537–9, nos 13–14); 4/25 (16%) in Achaia, Cyprus
51. Sex. M(urrius) Cladus, *in planta pedis*; OCK type 1211, Pisa, AD 80 + ; Aptera *tris* (Baldwin Bowsky 2014, 539–40, nos 15–17); 3/23 (13%) in Cyprus
52. Sex. M(urrius) Fes(tus), *in planta pedis*; OCK type 1212, Pisa, AD 60–150; Gortyn (Rizzo 2011, 83), Eleutherna *tris* (Baldwin Bowsky 2009, 182, nos 14 and 16; Kelly 2012, 465, figs 1–2), Aptera *tris* (Baldwin Bowsky 2014, 540–3, nos 18–20); 19/333 (5.7%) in Achaia, Cyrenaica, Cyprus
53. Sex. M(urrius) P(), *in planta pedis* and in crescent; OCK type 1213, Pisa, AD 60–150; Gortyn (Rizzo 2001, 38, no. 1; Magnelli 2001, 631, no. 6), Hierapytna (Gallimore 2011, 263, no. 213), Lappa *bis* (Baldwin Bowsky and Gavrilaki 2010, 227–8, nos 40, 42), Aptera *quinqiens* (Baldwin Bowsky 2014, 543–4, nos 21–25), Kydonia (Raab 2001, 70, no. 90); 4/111 (3.6%) in Achaia, Cyrenaica, Asia, Cyprus
54. Se[...], *in planta pedis*; probably OCK type 1212 or 1213; Lappa (Baldwin Bowsky and Gavrilaki 2010, 228, no. 41)
55. Sex[...], *in planta pedis*; too badly broken to identify; Aptera *bis* (Baldwin Bowsky 2014, 545–8, nos 26–7)
56. C. N(), in rounded-ended frame; OCK type 1222, central Italy, AD

- 1–30 +; Eleutherna (Baldwin Bowsky 2009, 181, no. 12); hitherto unattested in the Greek East
57. I. N() I(), *in planta pedis*; probably OCK type 1223, central Italy, AD 15 + ?; Aptera (Baldwin Bowsky 2014, 548, no. 28); hitherto unattested in the Greek East
58. N. Naevius Hilarus, *in tabella ansata*; OCK type 1250, Puteoli, AD 1 + ?; unknown location, Knossos *bis* (OC type 1083g, included in OCK type 1250; Sackett 1992, 198, no. C1.1); 5/28 (17.9%) in Crete, Cyrenaica, Asia
59. L. Nonius, *in planta pedis*; OCK type 1276, unknown provenience, 1st half of the 1st century AD; Aptera (Baldwin Bowsky 2014, 548, no. 29); 1/6 (16.7%) in Cyrenaica
60. L. Nonius Flor(entinus), *in planta pedis*; OCK type 1287, Pisa, AD 120–140; Aptera *bis* (Baldwin Bowsky 2014, 548–60, nos 30–1); 5/44 (11.4%) in Achaia, Cyprus
61. C. P() Pi(sanus), *in planta pedis*; OCK type 1342, Pisa, AD 50–100 +; Gortyn *bis* (Martin 2006, 184, fig. 7; Rizzo 2011, 83), Lappa (Baldwin Bowsky and Gavrilaki 2010, 228, no. 43), Aptera *bis* (Baldwin Bowsky 2014, 550, nos 32–3); 9/229 (3.9%) in Achaia, Cyrenaica, Cyprus, Judaea
62. (M.) (Perennius) Bargathes (1), in rectangle; OCK type 1404, Arezzo, AD 1–30; Knossos (Sackett 1992, 145, no. Y39); 4/65 (6.2%) in Crete, Achaia
63. (M.) (Perennius) Tigranus (2), in field; OCK type 1412, Arezzo, 10 BC–AD 10; Knossos (Hayes 1983, 138, no. 206); 3/77 (3.9%) in



64. Achaia, Egypt  
L. Ple() Amar(), in rectangle; OCK type 1477, Pisa?, 1st half of the 1st century AD; Knossos (Hayes 1983, 132, no. 205); 4/37 (10.8%) in Egypt
65. C. Pom() Fe(lix?), *in planta pedis*; OCK type 1498, central Italy, late-1st century to 1st half of the 2nd century AD; Lappa (Baldwin Bowsky and Gavrilaki 2010, 230, no. 51); 8/15 (57.3%) in Achaia
66. Rasinius (2), in rectangle; OCK type 1623, Arezzo, 15 BC–AD 40; Knossos (Sackett 1992, 144–5, no. Y46); 37/447 (8.3%) in Crete, Achaia, Egypt, Cyrenaica, Asia, Cilicia, Syria/Phoenicia
67. C. Rasinius, *in planta pedis*; OCK type 1686, unknown provenience, AD 15 +; Knossos (Sackett 1992, 145, no. Y33); 5/36 (13.9%) in Crete, Achaia, Egypt
68. L. Rasinius Pisanus, in rectangle and *in planta pedis*; OCK type 1690, Pisa, AD 50–120; Knossos (Sackett 1992, 145, no. Y25), Gortyn (Rizzo 2001, 38, no. 2, citing OC 1365, L. Pomponius Pisanus, whose stamps are all rectangular), Kommos (Shaw and Shaw 2000, 132, no. 99), Eleutherna (Baldwin Bowsky 2009, 179, no. 7), Lappa *quater* (Baldwin Bowsky and Gavrilaki 2010, 227, nos 36–9), Aptera (Baldwin Bowsky 2014, 440, no. 34); 42/484 (8.7%) in Crete, Achaia, Cyrenaica, Asia, Cyprus, Cilicia
69. L. Rast(icanus) Pre(), *in planta pedis*; OCK type 1694, central Italy?, Flavian?; Gortyn (Rizzo 2004, 188–9, no. 323); 6/31 (19.4%) in Achaia, Asia

70. T. Rufrenus, slave Rufio, in rectangle; OCK type 1732, Arezzo?, 15–5 BC; Knossos (Sackett 1992, 145, no. Y31); 1/45 (2.2%) in Crete
71. M. S() Pu(dens?), *in planta pedis*; OCK type 1760, Po Valley, AD 50–70; Knossos *bis* (Sackett 1992, 144, nos Y9, Y18); 2/15 (12.5%) in Crete
72. Sa[lvius?], too badly broken to identify stamp shape; OCK type 1776?, Po Valley, 2nd quarter of the 1st century AD; Eleutherna (Baldwin Bowsky 2009, 180–1, no. 11); hitherto unattested in the Greek East
73. C(?) Sa[trius?], in rectangle; cf. OCK type 1797, Po Valley, Augustan?; Lappa (Baldwin Bowsky and Gavrilaki 2010, 230–1, no. 52); hitherto unattested in the Greek East
74. C. Sentius (1), in rectangle; OCK type 1861, Etruria?, 20 BC–AD 20; Knossos (Warren 1988, 91); 13/132 (9.8%) in Achaia, Egypt, Asia, Arabia
75. Serenus (2), in rectangle; OCK type 1878, Puteoli, 10 BC–AD 10; Knossos (Hayes 1983, 132, no. 204); 5/27 (18.5%) in Achaia, Egypt
76. Sertorius, *in planta pedis*; OCK type 1909, Arezzo, AD 1–30; Knossos (Hayes 1971, 264, no. 11); 5/38 (13.1%) in Crete, Achaia, Egypt, Barbaricum Orientale
77. A. Sestius Dama (1), in rectangle; OCK type 1947, Arezzo?, 20–1 BC; Knossos (Warren 1988, 91); 3/20 (15%) in Achaia, Asia, Syria/Phoenicia
78. Statilia, slave Canopus, in

- rectangle; OCK type 1991, unknown provenience, 20–1 BC; Knossos (Sackett 1992, 14, no. Y21); 1/22 (4.5%) in Crete
79. L. Su() M(), *in planta pedis*; OCK type 1999, Pisa, 2nd half of the 1st century AD; Knossos (Sackett 1992, 145, no. Y27); 2/29 (6.9%) in Crete, Judaea
80. C. T[ap(urius)]?; in rectangle; OCK type 2036, Puteoli, 10 BC–AD 10; Knossos (Sackett 1992, 144, no. Y22; 143, pl. 124); 1/9 (11.1%) in Egypt
81. L. Tettius, slave Euticus, in rectangle; OCK type 2095, Arezzo?, 15 + BC; Knossos (Sackett 1992, 144, no. Y13); hitherto unattested in the Greek East
82. L. Titius, slave C(h)ryseros, in rounded-ended frame; OCK type 2212, Arezzo?, unknown date; Eleutherna (Baldwin Bowsky 2009, 178–9, no. 6); hitherto unattested in the Greek East
83. CV, shape difficult to identify; OCK type, provenience, and chronology unidentified; Lappa (Baldwin Bowsky and Gavrilaki 2010, 225, no. 31)
84. C. V() V(), *in planta pedis*; OCK type 2277, central Italy, AD 15 + ; Aptera (Baldwin Bowsky 2014, 551–2, no. 35); hitherto unattested in the Greek East
85. C. V[alerius], *in planta pedis*; OCK type 2293, unknown provenience, AD 15 + ; Lappa (Baldwin Bowsky and Gavrilaki 2010, 225, no. 30); hitherto unattested in the Greek East
86. C. Ve() A(), *in planta pedis*; OCK type 2330, Arezzo, mid-1st century AD; Knossos (Forster 2009, I, 87,

- no. 25); 3/12 (25%) in Achaia, Asia
87. L. Umbricius, slave Felix, in circle; OCK type 2457, unknown provenience, 20–1 BC; Knossos (Sackett 1992, 144, no. Y20); 1/6 (16.7%) in Crete
88. L. Umbricius H(), *in planta pedis*; OCK type 2470, Torrita di Siena, AD 50 +; Knossos (Sackett 1992, 144, no. Y4); 6/45 (13.3%) in Crete, Achaia, Asia, Cilicia
89. Zoilus (1), in field; OCK type 2543, Pisa, 5 + BC; Knossos (Hayes 1983, 138, no. 207); hitherto unattested in the Greek East
90. illegible, *in planta pedis*; not yet identified; Knossos (Sackett 1992, 145, no. Y26, pl. 123)
91. illegible, *in planta pedis*; not yet identified; Knossos (Forster 2009, I, 86, no. 22; II, 37, fig. 4.3)
92. Cn.[---], *in planta pedis*; too badly broken to identify; Aptera (Baldwin Bowsky 2014, 553, no. 36)
93. toes only, *in planta pedis*; too badly broken to identify; Aptera (Baldwin Bowsky 2014, 553, nos 37–8)
94. upper or lower points of letters, *in tabella ansata*; too badly broken to identify; Aptera (Baldwin Bowsky 2014, 553, no. 39)

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# The double axe (λάβρυς) in Roman Crete and beyond: the iconography of a multi-faceted symbol

*Anna Kouremenos*

The double axe in Crete, once the instrument of sacrifice ... has become the main religious symbol. (Sakellarakis 1993, 69)

The double axe would seem to be primarily a woodworking tool. (Northover and Evelyn 1996, 90)

With its distinctive symmetrical form, the double axe invited aesthetic elaboration and can, as no other type of metal artifact, embody proficiency in working with copper and bronze, and this must have had a continuing relevance to its symbolic significance. (Whittaker 2014, 77)

## Introduction

Few scholars of antiquity have dealt with the iconography of the double axe in Roman art and architecture despite the fact that, during the Roman period, it participated in a variety of meanings, such as precision work, violence, and religion. As illustrated by the quotations above, scholars have varying opinions regarding the nature of the double axe from one period to the next. The chief aim of this paper is to trace the iconography and meaning(s) of the double axe in various media from the Roman period on Crete in order to discern what type of a symbol it was and how it functioned in various contexts. This study brings in non-Cretan material from different time periods and locations as comparanda, which will aid us in understanding its symbolic significance in the Roman period. By presenting evidence from non-Cretan contexts in addition to tracing the evolution of the double axe as a motif both within and outside the island, I aim to develop a hypothesis about its presence during the Roman period on Crete. Some of the questions to be addressed include: what were the various meanings of the double axe in antiquity? Is the presence of the *labrys* – the word commonly used for the double axe by ancient Greek authors – in Roman Crete a sign of the continuity of an old Cretan (Minoan) symbol or was it a more generic symbol that was used on Crete as elsewhere within the empire? To what other category of

symbols does the double axe belong? Although this inquiry will uncover questions that cannot be fully answered, it will also point to hypotheses that might respond to archaeological investigation.

### The *Labrys* in ancient literature

What is a *labrys* and why is it usually associated with Crete in modern scholarship? In order to answer this question, we need to mention briefly some literary sources that mention the double axe in antiquity and discuss the origin of the term *labrys*, which will provide the background for further inquiry. Homer's *Odyssey* presents the earliest literary evidence for the double axe. In Book 5.234, the nymph Calypso gives Odysseus a bronze double axe to fell trees on her island of Ogygia in order to build a boat to carry him home to Ithaca. Hesiod's *Theogony* 886 ff. describes how Athena was born from the head of Zeus: while the king of the gods was suffering from a severe headache, Hephaestus rushed to his aid by splitting open Zeus' head with a double axe, which resulted in the emergence of the fully grown Athena. In this story, which was frequently illustrated on Greek vases, we see the importance of the double axe not only as a tool but also as a divine attribute (Pl. 8). Greek sculpture and vase paintings usually depict the double axe as a tool, a weapon, or as an attribute of gods and heroes. In neither Homer's nor Hesiod's account, however, is the double axe explicitly associated with Crete. Indeed, the connection between the island and the double axe is absent even in the etymology of the word *labrys*, which is described in later literary sources.

The origin of the word *labrys* appears to have been highly debated even in antiquity. In *The Moralia*, Plutarch, writing in the late 1st century AD, attempts to answer how the *labrys* became the symbol of Zeus Labrandeus (Plutarch *Quaest. Graec.* 45, *Mor.* 301F–302A):

Why is it that the statue of the Labrandean Zeus in Caria is fashioned holding an axe, but not a scepter or a thunderbolt?

Because when Heracles had slain Hippolyte, together with her other arms he took her axe and gave it as a present to Omphale. The Lydian kings who succeeded Omphale used to carry it as a part of the sacred regalia, handing it down one to the other until it came to Candaules. He deemed it of little worth and gave it to one of his Companions to carry. But when Gyges revolted and was at war with Candaules, Arselis came from Mylasa with an army as an ally for Gyges and slew both Candaules and his Companion and brought the axe to Caria together with the other spoils. He therefore constructed a statue of

Zeus and placed the axe in its hand, and called the god Labrandeus; or the Lydians call the axe labrys.

The above passage implies that the double axe, which Herakles took from Hippolyte and which was eventually passed down from generation to generation of Lydian rulers until it ended up in Caria as the symbol of Zeus Labrandeus, was of barbarian origin and was imbued with magical and protective powers. The passage also states that the word *labrys* is of Lydian origin, although the double axe is not otherwise known to have been explicitly associated with the material culture of this particular region in antiquity; Herodotus (1.171–173) also mentions a Lydian origin for the term.

Aelian, writing in the early 3rd century AD, gives a Greek meaning to the epithet Labrandeus and states that it derives from the adjective *labros*, which relates to Zeus Labrandeus' role as a weather god (Aelian NA, 12.30):

Tame fish which answer to a call and gladly accept food are to be found and are kept in many places, ... and at the shrine of Zeus Labrandeus in a spring of transparent water. And there the fish have golden necklaces and earrings, also of gold. The shrine of this Zeus is 70 stadia distant from the city of Mylasa. A sword is attached to the side of the statue ... and Zeus received the epithet of Labrandeus because he sent down furious [*'labros' in Greek*] and heavy rainstorms.

What is apparent in both passages is that the epithet Labrandeus is related to the noun *labrys*. As Evans concluded, it seems natural to interpret names of Carian sanctuaries like Labraunda in the most literal sense as the place of the sacred *labrys*, which was the Lydian (or Carian) name for the Greek πέλεκυς, or double-edged axe (Evans 1901). Yet, the majority of ancient writers favored the use of the word *labrys* over the Greek word πέλεκυς. But there is a further association that needs to be examined. The general scholarly consensus has been that the word labyrinth is etymologically related to *labrys*; thus, the labyrinth is 'the place of the double axe' (Evans 1901; 1927). But, as with Homer and Hesiod, neither Plutarch nor Aelian explicitly state any Cretan connection for the word *labrys*, nor do they associate it in any way with the labyrinth; the former gives us the legend behind the double axe and emphasizes the Lydian origin of the word while the latter claims that the word is of Greek origin and is connected with Zeus Labrandeus as weather god.

Why, then, did the double axe come to be associated with Crete and to be regarded as the most sacred symbol of the Minoans? Since

the discovery of the double axe at Knossos as mason's marks, on jewelry, votives, and other artefact types, various theories have been put forward to account for the importance and meaning of the *labrys* in Bronze Age Crete. While none of these theories is conclusive, they offer some background for interpreting the meaning of the *labrys* in the Roman period on Crete.

Below, I present some examples of the *labrys* in different contexts in pre-Roman Crete as well as in other areas of the Greek world in order to discern whether the iconography of the *labrys* in Roman contexts in Crete shows continuity, emulation, or a distinctive symbolic meaning.

### **The *Labrys* in Minoan-Mycenaean Crete**

The double axe is one of the most prevalent symbols in art and architecture dated to the Minoan period on Crete. Its importance as a symbol is best summed up by Nilsson:

of all religious symbols and symbols that appear in the Minoan civilization, the double axe is the most conspicuous, the real sign of Minoan religion and as omnipresent as the cross in Christianity and the crescent in Islam. (Nilsson 1950, 194)

Its representation in several different contexts, from larnakes and mason's marks to pottery and miniature votives found in caves, among many others, is a testament to the pervasive appearance of the symbol all over the island (Figs 5.1 and 5.2, Pls 9 and 10). While the period that concerns us in this paper is not the Minoan, it might be useful to mention briefly some prevailing interpretations of the iconography of the double axe in the Aegean Bronze Age.

Although there are many depictions of the double axe as a symbol in its own right, some scholars have observed that the *labrys* often appears to be associated with a goddess or priestess in Minoan art (Briault 2007; Marinatos 2010; Haysom 2010). Indeed, even Plutarch's words cited above suggest that the original owner was female – the mythical Amazon queen Hippolyte. But what was the meaning of this purported 'feminine' attribute and, more importantly, how did it come to be associated with female divinities? As Haysom states, even if the consensus view that the double axe was a religious symbol is accepted, there is still the question of what kind of religious symbol it was. Was it more like Athena's shield, or was it more like Pluto's cornucopia (Haysom 2010, 37)? For Briault, the *labrys* as represented in Minoan-Mycenaean iconography was a symbol that marked sacred

space or an object that evoked memories of events where axes were carried, displayed or deposited (Briault 2007, 252–7). Recently, Marinatos has argued that the double axe was most likely an attribute of the Solar Goddess of the Minoans and represents the rising sun (Marinatos 2010, 129); it fits in the same ‘family’ of eastern Mediterranean symbols as the ankh, the lotus, and the ox head, and was one of a series of symbols that formed part of a wider Near Eastern *koine*. In different contexts but still retaining its symbolism as the rising sun, it might also represent a regenerative symbol akin to the Egyptian lotus (Marinatos 2010, 122). While it is difficult to envision an association between the double axe and the rising sun, and the presence of a so-called Solar Goddess in Minoan Crete cannot be defined at present, it is interesting to note Marinatos’ observation, which was originally put forward by Evans in the early 20th century (Evans 1901), of the *labrys*’ apotropaic symbolism and its inclusion in a category with other Mediterranean symbols. The double axe, however, was not limited to the Mediterranean region even as early as the Minoan period. Its presence in Neolithic and early Bronze Age Europe in farming communities such as the Vinča culture of the Balkans suggests not only obvious pre-Bronze Age origins and a wider geographical distribution but also that its original function was not as a symbol but rather as a tool (Jager 1999). The precise timing of the shift from tool to symbol is difficult to discern and falls outside the scope of this paper, but current evidence suggests that it is in the Minoan period when the double axe was imbued with symbolic meaning, and that its symbolism became even more multi-faceted in subsequent periods.

### **The *Labrys* in non-Cretan contexts in the Classical and Hellenistic periods**

As already noted, ancient authors regarded the *labrys* as an attribute of the god of thunder and lightning. Indeed, areas other than Crete seem to have ascribed the double axe this meaning, especially when it appears as an attribute of male gods. In Caria, the *labrys* was the attribute of Zeus Labrandeus, as described by Plutarch and as depicted on coins from the region (Fig. 5.3). Coins minted during the reign of the Hecatomnid dynasty (391–326 BC) depict Zeus Labrandeus with the *labrys* and a lotus-tipped scepter, both attributes associated with divine power (Head 1897; Howgego *et al.* 2005, 56; Konuk 2013, 110–12). The composition of the cult statue of Zeus Labrandeus wielding a double axe and standing inside a temple with Ionic capitals also

appears on Roman imperial coins of Mylasa, the former capital of Caria, and seems to be tied to some form of religious continuity or reverence of older cults in the region during the *Pax Romana* (see e.g., Price 1984; Brody 2001).



*Figure 5.1 Larnax from Aghia Triada, Crete, dated to the Late Minoan III period (Archaeological Museum of Herakleion). Photo by P. Miller.*





*Figure 5.2 Mason's marks from Minoan palace at Malia, dated to the Late Minoan I period. Photo by author.*

Throughout the Classical and Hellenistic periods, the north Aegean island of Tenedos depicted the double axe on the reverse together with a Janus-like figure on the obverse of its coins (Rouse 1901, 270–2; Waites 1923; Georgoudi 2011, 51–9; [Fig. 5.4](#)). It was not only restricted to the coins of the island, however; two lead weights from Tenedos show a double axe accompanied by grapes while a bronze tablet found near the Temple of Zeus in the Altis at Olympia bears a decree of a Tenedian wrestler with two double axes (Georgoudi 2011, 58). So associated was the island with the double axe that Aristotle mentions the proverb ‘Τενέδιος πέλεκυς’ for a double axe associated with cruel actions (Aristotle, fr. 593). The philosopher states that the proverb arose when a king of Tenedos initiated a law whereby all adulterers would be slain with a double axe; the king’s own son was found guilty of adultery and was executed according to the law. After this event, the coins of Tenedos bore the symbol of the *labrys*.

In Hellenistic Thrace, the double axe was an attribute of Zalmoxis, the god of thunder. It is also depicted on coins of Thrace as the symbol of the kings of the Odrysae, who considered Zalmoxis the ancestor and protector of the royal house (Urukova 1976; Topalov 1994). On a wall painting from a tomb at Alexandrovo ([Pl. 11](#)), the double axe is used as a weapon by a male figure (Theodossiev 2005; Petrov 2007; Cohen 2010, 296), probably Zalmoxis, to kill a wild boar, as it also is in the

Gnosis mosaic from Pella (Pl. 12) where a young Macedonian nobleman kills a stag with a double axe while his companion attacks it with his dagger (Petsas 1964, 2–25; Robertson 1967, 76–7; Yalouris 1982, 27). Also in Macedonia, it appears as a symbol on coins depicting a seated Zeus (Kremydi-Sicilianou 2005, 97–103; Touratsoglou 2012). Since Zeus was the mythical ancestor of the Macedonian royal family, the double axe as the god's attribute was associated with royalty; triple rows of the double axe have been discovered in the burial of the lady of Aegae as well as in sanctuaries (Kottaridi 2011; Kouremenos 2011; Fig. 5.5). The holes at the bottom of each row of the Aegae axes suggest that they likely accommodated wooden poles and may have been held as scepters by royal Macedonian women (Kottaridi 2011, 34). This type of double axe must have been limited to Macedonia, as other examples with triple rows are not known from elsewhere. If these were used as scepters, as seems likely, they are the only such examples from the Greek world and are a testament to the significance of the symbol in the life of Macedonian nobility.



*Figure 5.3 Silver tetradrachm of Mausolus of Caria, 377–353 BC. From Gorny and Mosch, Online Catalogue 199 (2011), by permission of M. Kaloshina.*



Figure 5.4 Silver tetradrachm of Tenedos, 4th century BC (private collection). From Classical Numismatic Group, Inc., by permission of D. Tatro.



Figure 5.5 Triple rows of double axes from the burials of women at Aegae. Photo by A. Kottaridi.

### The double axe in non-Cretan contexts during the Roman period

The *labrys* continued to be depicted in various media throughout the Roman period. It is during this time, in fact, that the double axe seems to have acquired a multitude of meanings, potentially leading to diverse interpretations. Like some Classical and Hellenistic rulers, Roman emperors also associated their images with the double axe on coins minted under their rule. The coins of some cities in the eastern provinces bore the images of individual emperors on the obverse and the double axe on the reverse, either as a lone symbol or as an attribute of a local divinity. Coins of the Julio-Claudian emperors minted at Hierapolis in Phrygia show the *labrys* on the reverse (Fig. 5.6), where it is carried by Apollo – the city's patron deity – on horseback. The *labrys* appears as the sole symbol on the obverse of a

bronze coin of Hadrian from Oxyrrhynchus in Egypt (Fig. 5.7), now in a private collection. Its meaning in this context is unclear, as neither the city nor the emperor are known to have had any particular association with the double axe. It is possible that its appearance on Hadrianic coins may be a reference to the league of workmen in the city that used the double axe as their tool, thus associating the city with woodworking (H. Whitehouse, pers. comm.).

Why was the double axe not depicted on any of the coins of Cretan cities as well as those of the Cretan *Koinon* – the league of Cretan cities – during the Roman period? This exclusion may seem odd as many cities on the island minted coins with native Cretan deities (e.g., Velchanos at Gortyn; Britomartis/Diktyнна at Kydonia) or with mythological symbols associated with a particular city (Svoronos 1889; Sidiropoulos 1996; 2004; Stefanakis 2010). The obvious answer is that the *labrys* was not a symbol of any particular Cretan city as was, for example, the labyrinth at Knossos featured on the coins of the city even after it became a Roman colony. Also, coins minted in Cretan cities before the Roman period did not depict the *labrys*, which suggests that, in the post-Minoan period, the double axe had lost its meaning and importance as a symbol of divine power. So how then can the presence of double axes on various media in Crete be interpreted if the symbol was not associated with older Cretan symbolic meaning? In order to answer this question, we need to look outside Crete for evidence.



Figure 5.6 Silver sesterčius of Nero from Hierapolis, Phrygia, AD 54–68 (private collection). Photo by D. Kurth.

Roman art contains a multitude of examples featuring double axes. The *labrys* was the symbol of Jupiter Dolichenus, a god originally

worshipped from the early Roman period in the town of Doliche in Commagene, but whose worship spread with the Roman army throughout the empire during the 2nd century AD (Collar 2013, 79–93), as an example of an altar from Vindolanda in Roman Britain bearing a depiction of the god indicates. (Fig. 5.8). While very little is known about this originally eastern deity from historical sources – the only written source that mentions Jupiter Dolichenus is Stephanus of Byzantium, who writes that the god came from Doliche, located in Commagene – his iconography bears a striking resemblance to the Hurrian sky and weather god Teshub, who was depicted wielding a double axe (Waites 1923, 29; Collar 2013, 84–5). Teshub's attributes were the thunderbolt and the axe, usually but not always, depicted as the double axe. Jupiter Dolichenus is easily identified by inscriptions found on various altars dedicated to him. The three attributes that usually appear in his iconographic representation are the double axe, the thunderbolt, and the bull, all symbols of male power and virility that made him a fitting god for the Roman army.



*Figure 5.7 Bronze dichalkon of Hadrian with double-axe on the reverse, from Oxyrrhynchus, Egypt, c. AD 128–130 (private collection). From Hobbyblog, by permission of E. Finn.*

The *labrys* was frequently depicted on mosaics in household contexts, most often in the Greek East, but also, although less frequently, in the west (see e.g., Levi 1947; Stern 1977; Campbell 1988; Dunbabin 1999; Cimok 2000). At least four houses in Antioch, dating from the 2nd to the 4th centuries AD, contain mosaics with depictions of double axes associated with geometric motifs; these are the ‘House of Menander,’ ‘House of Served Meals,’ ‘House of the Evil Eye,’ and the ‘House of the Boat of Psyche.’ At Palmyra, the ‘House of Achilles’ contains examples of a slightly different version of the double

axe motif, namely the merging of the pelta – a protective symbol – with the double axe, which gives it a more elegant form (Stern 1977, 47). Stern believes that this variation in the double axe's iconography may be attributed to different 'schools' of mosaicists in Syria, with a particular school preferring to merge both motifs into one (Stern 1997, 9). Indeed, the latter version seems to have been rare in other parts of the empire, although a few examples of pelta-double axes appear on marble reliefs from other provinces.





*Figure 5.8 Altar depicting Jupiter Dolichenus standing on a bull and holding a double axe, from Vindolanda, 2nd century AD. Photo by L. Spangenberg.*

At Zeugma, the *labrys* is depicted on a figural mosaic that has Crete as its setting (Pl. 13). The 'House of Poseidon,' dated to the late 2nd/3rd century AD, contains a mosaic floor with two panels arranged in a T-shape, indicating that the room was probably a triclinium. One of the panels illustrates a scene with Pasiphaë, Trophos, Daedalus and Icarus. The labelled figures show Daedalus and his son Icarus engaged in what appears to be woodworking (Abadie-Reynal 2002; Önal 2002; Barbet 2005; Şahin 2013). It is possible that the mosaic shows a scene from a play. In this composition, the double axe lies on the floor by Icarus' feet and is clearly meant to be seen as a woodworking tool; both Daedalus and Icarus are depicted holding worked wood, Daedalus clutching a saw and Icarus working a piece of wood with a hammer. Part of a tree trunk is depicted in front of the two figures, with the double axe to its right. It is apparent that the double axe in this composition is meant to be understood as the tool that felled the tree. The boukranion, another apotropaic symbol associated with Crete like the double axe, is shown by Pasiphaë's feet and in this context is a reference to the myth of the queen's mating with the bull. Another mosaic from a 2nd century AD house at Zeugma shows the rescue of Danae and the infant Perseus by Diktys (K. Gökay, pers. comm.). A double axe is depicted in front of a wooden chest, suggesting that Diktys may have used the double axe as a tool to open the chest.

The *labrys* often appears as an attribute of mythological figures, particularly Amazons. An example of a female figure wielding a double axe appears on a 3rd-century AD sarcophagus depicting an Amazonomachy, now in the Pio Clementino Museum, Vatican (Fig. 5.9). In this composition, the woman holds a *labrys* while tending to her horse. A pelta in the top right hand corner in conjunction with the double axe suggests that the Amazon is engaged in war. Similarly, an Amazon uses a double axe to fight off a Roman soldier in a mosaic from Antioch (Levi 1947, 46; Campbell 1988, 92); it is noteworthy that this configuration also contains two double axes that have fallen on the ground and which presumably belonged to other defeated Amazons (Fig. 5.10).





*Figure 5.9 Right side panel of a sarcophagus with a composition depicting an Amazon holding a double axe, dated AD 230–250 (Rome, Pio Clementine Museum). Photo by J. Shauer.*



Figure 5.10 Mosaic of Roman soldiers fighting Amazons; on the ground can be seen two double-headed axes, from Antioch, the 'House of the Amazons', 3rd century AD. From Levi 1947, pl. cxxiii.



Figure 5.11 Sketch of an upper register of the Column of Trajan, Rome, showing a group scene with a soldier carrying a double axe, 2nd century AD. From <http://schnucks0.free.fr/trajan.htm>, by permission of O. Schneol.

Two of the top registers on Trajan's column in Rome feature the *labrys* as both a weapon and as a tool used by Roman legionaries to chop down trees and in battle with the Dacians (Jager 1999, 836; Fig. 5.11). Its presence on such a grand imperial monument is a clear indication that the Romans used the *labrys* – or *bipennis* as it was called in Latin – in war, one of the few representations of the double axe being used as a weapon by soldiers rather than by deities, mythological figures, or heroes.

There are many other depictions of the double axe from the Classical to the Roman period that suggest that the *labrys* appears either as the attribute of a deity or mythological person, as the symbol of a city, as a tool, or as a weapon. An examination of these goes beyond the scope of this paper.

### The *labrys* in Roman Crete

I have already discussed briefly the evolution of the iconography of the *labrys* from the Minoan period onwards and its presence in both Greek and non-Greek contexts. In Roman Crete, it appears in various contexts, some of which are discussed below.

The double axe appears on a mosaic floor in the ‘House of Phidias’ at Kissamos in west Crete (Fig. 5.12); this part of the house is dated to the 2nd/3rd century AD based on its pottery (Markoulaki 2009, 362–3). The mosaic contains a *tabula ansata* on the far right with an inscription naming the owner of the house as Phidias (Markoulaki 2009, 363). It has a figural panel in the center with a composition of a centaur attacking a panther. To the left of this panel is a pelta flanked by two small double axes situated on opposite ends of each other. As already noted, the pelta was a symbol of protection in Roman art, and the close proximity between it and the two small double axes in this composition suggests that both these motifs were considered in the same category of apotropaic symbols. The depiction of two double axes in a reception room raises the question of their meaning in a household context. Were they simply meant to be understood as apotropaic symbols or could they possibly signify a collective memory of an older Cretan motif? Comparisons with other mosaic floors that contain the *labrys* motif might provide the answer.

Could this symbol represent Phidias’ desire to connect himself with the Cretan past? Certainly, the double axes do not seem to fit in with the rest of the composition, nor does it have any particular relation with the subjects depicted in the other mosaics of the house, most of which contain Dionysiac scenes (Markoulaki 2009, 365; Kouremenos 2013a, 158–60). What is evident, however, is that this is the only depiction of the symbol found in a Roman house on Crete (Kouremenos 2013a, 159).

A comparison with the mosaics found in non-Cretan contexts is important for understanding its presence in the house at Kissamos. The mosaic from the ‘House of Phidias’ preserves the last part of the artist’s (or mosaicist’s) signature: .....ΔΑΦΝΗΝ ΕΠΟΙΕΙ (Markoulaki

2011, 363). Since no other town with the name of Daphne is known to have existed in the Greek East, it is obvious that the Daphne in this instance is Antioch-Daphne. An artist from Antioch-Daphne also put his signature on one of the mosaics from a house in nearby Kydonia (Markoulaki 1990, 462). We know, then, that the artist who created the mosaic in the House of Phidias was not Cretan. An examination of mosaic floors from houses in Antioch offers further clues about the nature of the motif.

At Antioch, at least four mosaic floors contain double axe motifs (Levi 1947; Kondoleon 2000; Kouremenos 2013a). The ‘House of the Boat of Psyche’ has a mosaic floor featuring a circle inside a diamond with uneven edges inscribed inside a larger diamond. Four double axes, one on each side of the diamond, surround the composition. Perhaps the example that is closest to the pattern from the ‘House of Phidias’ at Kissamos is a fragment of a mosaic floor in the ‘House of the Evil Eye’ (Fig. 5.13; Levi 1947, 34; Kouremenos 2013a, 156), which preserves both the geometric motif of a diamond inscribed inside a square with a rosette in the middle – which also appears on the east side of the room in the ‘House of Phidias’ – and two double axes flanking it. The depiction of the *labrys* on mosaic floors points to the motif’s popularity in 2nd and 3rd century AD houses in Syria. Given the Antiochene origin of the artist who made the Kissamos mosaic, it is likely that he was copying a motif that the ‘school of mosaicists’ in Antioch had reproduced in other houses, both within and outside Syria (Fig. 5.14). Thus, the *labrys* motifs in the ‘House of Phidias’ at Kissamos should be understood as apotropaic symbols that formed part of the artistic repertoire of the Syrian artist who made the mosaic.



*Figure 5.12 Mosaic in Room 1 in the House of Phidias, Kissamos. From Markoulaki 2009, 363, by permission of ΚΔ' Ephorate of Prehistoric and Classical Antiquities, Chania.*



*Figure 5.13 Mosaic in the 'House of the Evil Eye', Antioch, 2nd century AD. From Levi 1947, pl. cvii e.*





*Figure 5.14 Mosaic in the 'House of the Buffet Supper', Antioch, 2nd century AD. From Levi 1947, pl. cvii a.*

The *labrys* also appears on mosaics from houses at Pompeii (Blake 1930; Dunbabin 1999; Christensen 2006), indicating that the Romans in Italy also ascribed to it an analogous symbolic meaning. The mosaic in the fauces of the 'House of Pansa' shows a guard dog tied to one side of a double door. The left side of the double door depicts a spear and shield while the right side contains a double axe. It is clear from the juxtaposition of these images and the location of the mosaic at the entrance of the house that these symbols were meant for the protection of the house, its owner, and his family. The three symbols also suggest that the house was viewed as a sanctuary, a theme that was prevalent in Pompeian houses (see e.g., Dwyer 1991; Dunbabin 1991; Bergmann 1994).



*Figure 5.15 Mosaic in the fauces of the 'House of Pansa', Pompeii, 1st century AD. Photo by R. Jimenez.*



*Figure 5.16 Lamp with bull and double axe with a Minoan-like(?) figure on the reverse, from Knossos, dated to the 2nd century AD (private collection). Photo by C. Moore.*

Lamps are another type of artefact on which the double axe motif was frequently depicted. A lamp from Kissamos found in an unspecified household context and dated to the 2nd century AD, is now displayed in the Archaeological Museum of Chania (A. Milona, pers. comm.). The lamp preserves an *akanthos*-shaped stamp on the bottom, indicating that it may have been manufactured in one of the local workshops in Crete, as lamps with the same motif have been found in both Chania and Knossos (author's observation). It depicts a portrait figure in profile with flowing hair, probably male, and holding the double axe. The juxtaposition of the male figure in profile and the double axe near his face suggests that it was meant to be interpreted as his attribute. But does the figure represent a deity or a mortal? Could he, perhaps, be Zeus (Labrandeus?) or Apollo? Or is he Daedalus holding the double axe as his tool of choice? Whoever this figure is meant to represent, it is obvious from the prominence of the double axe in the composition that the association between the *labrys* and the figure holding it would likely be understood by potential buyers of the lamp.

A lamp dated to the Roman period, of unknown provenience in Crete and now in a private collection, depicts a bull with a double axe over its head (Fig. 5.16). The underside of the lamp represents a male



head with a head cover. The unknown provenience of the lamp cannot link it with a Cretan workshop, even though the legend it depicts is Cretan. Some scholars have suggested that the double axe was sacred in Minoan Crete because it was used as the tool to slay the sacred bull (Evans 1901; 1927; Nilsson 1927; Pendlebury 1939). In Pendlebury's opinion, the *labrys* in Minoan Crete was originally a sacrificial axe that, in the course of time, become both a cult symbol and a cult object (Pendlebury 1939, 274). To date, however, no iconographic portrayal of the double axe as a weapon to slay bulls has been found in the material culture of Minoan Crete (Marinatos 2010, 41; Whittaker 2014, 99). The lamp from Roman Crete appears to support Pendlebury's conclusion, but the question is, did the Cretans living under Roman rule attribute the same symbolic meaning to the double axe as the instrument used to slay the sacred bull or did the lamp maker simply put together three images that refer to the myth of Theseus and the Minotaur? Had the meaning of the double axe shifted significantly from the Minoan to the Roman period, whereby the Minoans attributed a religious function to it while the Romans saw it as a more multi-faceted symbol? No other lamp with these motifs has been found elsewhere in the empire, possibly indicating that it was made by a Cretan workshop specializing in figural lamps with themes from Cretan mythology.

Sapouna's extensive catalogue of lamps from the most important of Cretan sanctuaries, the cave of Zeus on Mt Ida, does not include a single example of a lamp with the double axe motif, although there are examples depicting bulls (Sapouna 1998). It does, however, appear on the body of several lamps in other parts of the empire, mainly as a symbol on the sides of the body in both otherwise plain as well as figural lamps (Figs 5.17 and 5.18). Lamps not only provided light but may have also served as good-luck charms for the house or for specific rooms within an enclosed space when symbols like the double axe were depicted on them.

Let us now look briefly at how the double axe was represented on jewelry. The *labrys* appears as a symbol on a carnelian intaglio in a single example of a group of rings from burials in the Selino province, southwest Crete, dated to the 2nd/3rd century AD. The intaglio's composition consists of one larger and one smaller double axe hovering beside the figure of a male head, perhaps a demon, which appears to stand on a bowl. The use of hovering double axes in this composition is somewhat similar to a LM II–III (1450–1350 BC) seal

from Knossos that depicts a Minoan ‘Mistress of Animals’ with a double axe hovering above her head, a motif that also appears on Minoan gold rings (Haysom 2010, 40; [Fig. 5.19](#)).

While the example from the Selino province belongs to a different type of composition, the double axe’s sacred connotation on rings and intaglios in both Minoan and Roman-period rings is unmistakable. It is unclear what meaning this composition held for the woman who owned the ring, but it is likely that the double axe in the composition might indicate the protection of progeny or even the protection of the woman’s fertility from evil forces. Another carnelian ring dating to the Roman period found in a burial context, but without a secure provenience, also in the Selino province depicts a woman holding a cornucopia, a symbol of abundance. Although it is not known whether these carnelian rings date to the same time period, the apotropaic symbolism of both the cornucopia and the double axe on the ring intaglios suggests that both symbols were depicted in order to bring good luck to the wearers.

The last category of artefacts that will be discussed in this paper is funerary monuments. The first example was discovered in Tarrha in southwest Crete and is dated to the 1st–2nd century AD ([Fig. 5.20](#)). It bears the figure of a hand grasping a double axe on the left side with the fragmentary inscription of the name and patronymic of the deceased individual appearing on the bottom of the stele: Αί[τ]ίρος Σώσω (Guarducci 1935, 307).

This iconographic composition poses some important questions: why did the family of Ai[t]iros choose to depict a hand holding a *labrys* on his grave stele? What significance did the double axe hold for the deceased during his lifetime? Given the prominent depiction of the double axe being held by a human in this composition, it was likely meant to be seen as a tool or a weapon in this instance. Are we to assume that Ai[t]iros was a farmer or a warrior and the double axe was his tool/weapon of choice? Or should the double axe be seen as a symbol of fortitude, a reminder of the deceased’s courage during his lifetime?



*Figure 5.17 Mold of a lamp with two double axes, 2nd or 3rd century AD (private collection). Photo by P. Williamson.*



Figure 5.18 Lamp depicting a figural composition of Pan copulating with a goat, with two double axes framing the composition, 1st or 2nd century AD (private collection). Photo by P. Williamson.

The second is a sepulchral cippus, dated to the 2nd–3rd century AD, and also comes from Tarrha. It is preserved in a sketch published in *Iscriptiones Creticae* (Guarducci 1935, 308; [Fig. 5.21](#)). In this example, a small double axe is depicted under an inscription giving the name and patronymic of the deceased individual: Ζώπυρος Φιλολάλου.

The free-floating double axe under the deceased's name suggests that, in this instance, the axe was most likely meant to be seen as an apotropaic symbol rather than as a tool. It seems reasonable to assume that the *labrys* was a symbol of good luck or eternal life for the deceased Zopiros. This argument finds close parallels in other parts of the Greek East, particularly in Caria where the double axe was depicted on grave stelai and marble altars (author's observation, Milas

and Stratonikeia museums). At Roman Stratonikeia, an altar dedicated to Zeus Labrandeus contains a double axe above the inscription (*SEG* 55 1134), indicating that the use of the *labrys* in both funerary and religious contexts was not limited to Crete but had other parallels, especially in the eastern provinces. (Fig. 5.22). Similarly, another marble altar from the same city was dedicated by a woman named Zopyra and contains a relief of a double axe in the center with the letters of the dedication surrounding it (Özhan 2005, 19).



Figure 5.19 Silicone impression of LM II–III seal, from Knossos. From Haysom 2010, 40.

It is clear from the examples discussed in this paper that the *labrys*' meaning in Roman Crete was dependent on its context and that its most prominent iconographic function was as an apotropaic symbol, which is in keeping with its depictions in other parts of the empire. Even in cases where the *labrys* appears as the attribute of a deity, as on the lamp from Kissamos, or as a tool or weapon held by a man, as

on the grave stele from Tarrha, the apotropaic symbolism is not lost; its close association with a divinity and a deceased individual suggests an otherworldly connotation for the double axe even in contexts where such a meaning may not have been explicitly intended.



*Figure 5.20 Funerary stele depicting a hand holding a double axe, from Tarrha, Crete, 1st–2nd century AD. From IC III, 307.*

## Conclusion

This article attempted to determine if there was continuity in the meaning of the double axe – a symbol that has long been associated with Crete by archaeologists and art historians – from the Minoan to the Roman period. The rather eclectic mix of artefact categories depicting the double axe presented here probably raises more questions than it answers and conclusions are mostly speculative, but it also allows us to place the double axe in a wider category of symbols (e.g., the pelta, cornucopia, and boukranion) that prevailed in the material culture of the Roman Empire.

Ancient historians writing in the Greek and Roman periods held varying opinions about the origin of the *labrys*, both in terms of its etymology as well as its use. I have argued that while the Minoan origin of the *labrys* may have not been lost entirely by the Roman period as myths set in Minoan Crete – especially that of Theseus, who was often depicted using a double axe to slay the Minotaur in Greek and Roman art – are depicted on mosaics, lamps and other artefacts, the true meaning of the double axe as a motif was far more multi-faceted during Roman times than it was during the Bronze Age, when it was mostly a religious symbol. Many scholars of antiquity have long held the view that in Minoan Crete, the *labrys* was mostly associated with females, either goddesses or priestesses. In Roman Crete, however, the *labrys* does not appear to have been associated with a particular divinity or limited to only one gender and seems to have functioned as a symbol in its own right. But what kind of a symbol was it?

In the post-Minoan period, the double axe seems to have evolved into an apotropaic symbol that was not necessarily associated with specific gods. Having undergone centuries of shifts in its meaning and significance, the double axe may be described as a truly ‘flexible’ symbol in the Roman period, as can be seen from examples from Crete and elsewhere. The presence of the double axe in various contexts across the empire may have given it multiple meanings depending on the contexts in which it appeared, but the constant emulation of various apotropaic symbol including the *labrys* in material culture in different parts of the empire was probably a result of the cultural phenomenon which I call emulative acculturation (Kouremenos 2013a; forthcoming). This implies the continuous imitation of specific traits among the upper classes that were gradually transmitted to the lower classes through emulation. Symbols usually fall into such a



category of imitated traits. The double axe, which was a symbol used in the material culture of several peoples before the Roman period, was one of the most likely candidate to participate in this emulative acculturation, as it not only appeared to have held multiple meanings both before and during the Roman period but was presumably also understood and replicated by a wide variety of the empire's population, both elite and, although lesser-known, non-elite. Thus, while one might argue that the *labrys* was a multi-faceted symbol long before the Roman period, it was only during the Roman period that we see it on a wider variety of artefacts and in a wider geographical space.



Figure 5.21 Sketch of a sepulchral cippus with double axe, from Tarrha, Crete, probably 2nd–3rd century AD. From IC III, 308.



*Figure 5.22 Marble altar dedicated to Zeus Labrandeus with relief of a double axe, from Stratonikeia, Caria, Roman imperial period. Photo by M. Güzel.*

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# The Roman climate in the southwest Aegean: was it really different?

*Jennifer Moody*

## Introduction

The idea that the climate during the Roman epoch was substantially different from today's is not new; Gibbon proposed it in AD 1776 ([chapters 6, 9](#)). It is, however, a view that has gone in and out of favor, the main objection being the lack of scientific data (*pro*: Huntington 1917; Baynes 1943, 30–1; Lamb 1977; 1982; Grove and Rackham 2001, 142–3, 31; Hin 2013; *against*: Shaw 1981; Sallares 1991). This is no longer the case. Analyses of lake, marsh and cave deposits, ancient trees, and marine cores demonstrate that the climate changed significantly several times between 300 BC and AD 1000 (Scheidel 2012; McCormick *et al.* 2012a; 2012b; McCormick 2013; Manning 2013).

Given the vastness and environmental diversity of the Roman world, climate change did not affect all parts of it in the same way ([Fig. 6.1](#)). This paper focuses on climate conditions in the southwest Aegean (Crete, Cyclades, Peloponnese, and southern Attica) from c. 300 BC to AD 1000 ([Figs 6.2, 6.3](#)). Recent surveys of Roman climate data have largely ignored this region because few of the data sources from it are finely dated (McCormick *et al.* 2012a, 212–3; Manning 2013, 118, 143–5; Haldon *et al.* 2014). It is, however, worth assembling what evidence exists to see what it can tell us. This complex task involves many pieces of data – to help the reader I have collated the changes in the central Mediterranean and Europe, the southwest Aegean, and the eastern Mediterranean in [Table 6.1](#). I close by comparing Roman climate conditions in the southwest Aegean reconstructed from spotty data with those from the central and eastern Mediterranean reconstructed from more robust material, and with settlement history in the southwest Aegean.

## Data sources

All ancient climate data come from indirect sources, which are called

climate proxies. For the Aegean, the main sources are tree-rings, pollen, microshells (foraminifera, diatoms), stable isotopes (oxygen, carbon), lake levels, and geomorphology. These materials are proxies for precipitation and temperature, and, if finely enough sampled and dated, for seasonality (Orland *et al.* 2009; 2012). Not all proxies are equally sensitive, and some proxies respond to climate change more quickly than others.

### *Tree-rings*

Tree-rings are the best high-resolution climate proxies available because they accumulate annually and can be accurately dated. Unfortunately, no dendroclimatological research has been published from the southwest Aegean, although several projects are in progress; Manning (2013, 119, 136–45) presents a thoughtful summary of Roman tree-ring data.

Tree-ring series from northern Greece (Griggs *et al.* 2007) and the Antalya region of Anatolia (Touchan *et al.* 2007; Köse *et al.* 2012) are the closest to the southwest Aegean and cover the last 900 years. The Antalya series correlates well with those in progress on Crete and in the Peloponnese. Unpublished work by the Cretan tree-ring project directed by Tomasz Wazny (University of Arizona) has found very high correlations between tree-ring series in Crete and southwest Anatolia. The northern Greece series does not correlate strongly with Antalya (Griggs *et al.* 2007, 1086–7, table viii) and by inference would not be likely to correlate strongly with the southwest Aegean. Such observations suggest that the southwest Aegean shares stronger climate ties with south and southwest Anatolia than it does with northern Greece. Modern climate studies reveal similar climate links between the southwest Aegean and south-southwest Anatolia and divergences with the north Aegean and central Mediterranean. For example, the oxygen isotope content of modern precipitation links the southwest Aegean with Antalya in south-central Anatolia, and connects northern Greece with the central Mediterranean and Europe (Roberts *et al.* 2008, 2429, fig. 2). Similar relationships are evidenced in modern temperature records (Büntgen *et al.* 2011a; 2011b, 17, fig. S12).

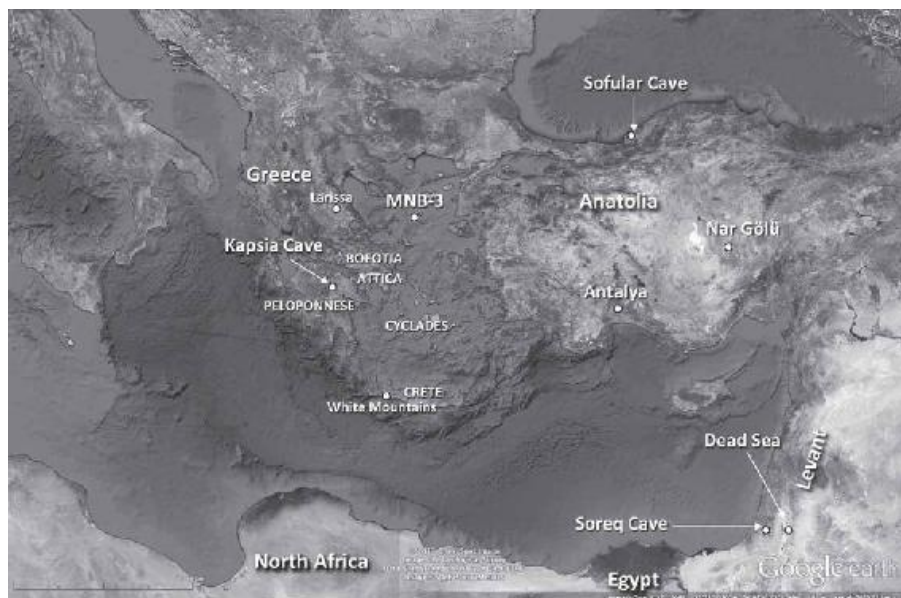


Figure 6.1 Map showing the main climate proxy locations used in this paper: east Mediterranean. Base image: Google Earth 2013.

Peyron *et al.* (2011) and Marino *et al.* (2009) propose that the climate trajectories of northern and southern Greece diverged after the Neolithic Humid period, especially with regard to seasonality.

### Pollen

Pollen can be a sensitive archive for short-term climate change and land use if collected from varved lakes and where the plants represented grow in narrowly defined environments (Peteet 2000, 1360). No pollen cores from the southwest Aegean come from varved lakes, and unfortunately most plants represented in Aegean diagrams have broad environmental ranges. Prickly oak, for example, grows on Crete from near sea level to c. 1200 m (Rackham and Moody 1996, 64, 66, fig. 6.10). This results in southwest Aegean pollen cores being rather coarse-grained environmental archives that reflect landscape changes on a centennial rather than a decadal scale. Thus, most vegetation changes exhibited in these cores – if due to climate – would be significant over the long term but not the short term. Determining the agent of change – human, climate, weather, tectonics – remains a challenge.

The Roman epoch is covered by a number of pollen cores in the southwest Aegean, but only seven are moderately well-dated: Vravron marsh in Attica (Kouli 2011), Psatha near Megara (Jahns 2003), Lake Lerna in the Argos Plain (Jahns 1993), Pylos in Messenia (Yazvenko in

Zangger *et al.* 1997), and Asi Gonia in west Crete (Atherden and Hall 1999). The published chronology of the core from Pylos, however, is problematic. Yazvenko subtracted 560 years from every bulk and shell radiocarbon date because of a difference of that many years between one date on plant material and a bulk date from the same level. A single discrepancy like this could be a fluke and basing the chronology of the entire core on it seems risky. For this reason, I recalibrated the shell dates in the core with CALIB 6 using the Marine 09 database and an Aegean reservoir correction of  $146 \pm 30$ . The resulting chronology is on average only 100 years older than that used by Yazvenko.

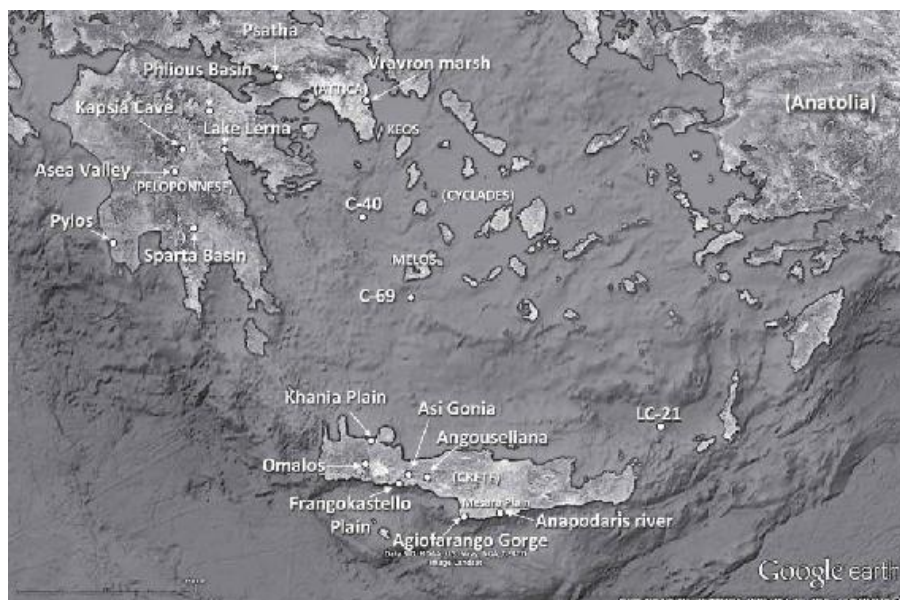


Figure 6.2 Map showing the main climate proxy locations used in this paper: south Aegean. Base image: Google Earth 2013.

Other poorly dated cores that probably cover some or all of the Hellenistic to early Byzantine periods include Osmanaga 30 and 15, Akovitika, and Ag. Flores in Messenia (Wright 1972; Papazisimo *et al.* 2005; Engel *et al.* 2009; see also Moody 1987), Kotihi Lagoon in the northwest Peloponnese (Lazarova *et al.* 2012), Aliki Lagoon in the northern Peloponnese (Kontopoulos *et al.* 2003), Kleonai in the Corinthiad (Atherden *et al.* 1993), Kiladha and Lake Thermisia in the Argolid (Bottema 1990; Sheehan 1979), and Kournas and Omalos from western Crete (Bottema and Sarpaki 2003; Goshn *et al.* 2010). Several cores come from further north in Greece – some are well-dated – but they have only moderate relevance to the vegetation history of the southwest Aegean: Lakes Trikhonis and Voulkaria in Acarnania (Bottema 1990, 129–33; Jahns 2005); Lake Copais in Boeotia (Greig

and Turner 1974; Turner and Greig 1975; also see Moody 1987); and Xinias and Halos Thessaly (Bottema 1979; 1990, 131, 133).

The diversity of collection and dating techniques used for these pollen cores makes direct comparisons difficult. Calculating a standard measurement helps mitigate these differences, and one such measurement is the Non-Forest Index (NFI), a ratio of Mediterranean woodland to nonwoodland pollen. Values of 300 or more are considered open steppe, and values of four or less are considered closed-canopy woodland (Grove and Rackham 2001, 157–61; Moody 2014, 23).

#### *Microfossils, stable isotopes, and sapropels*

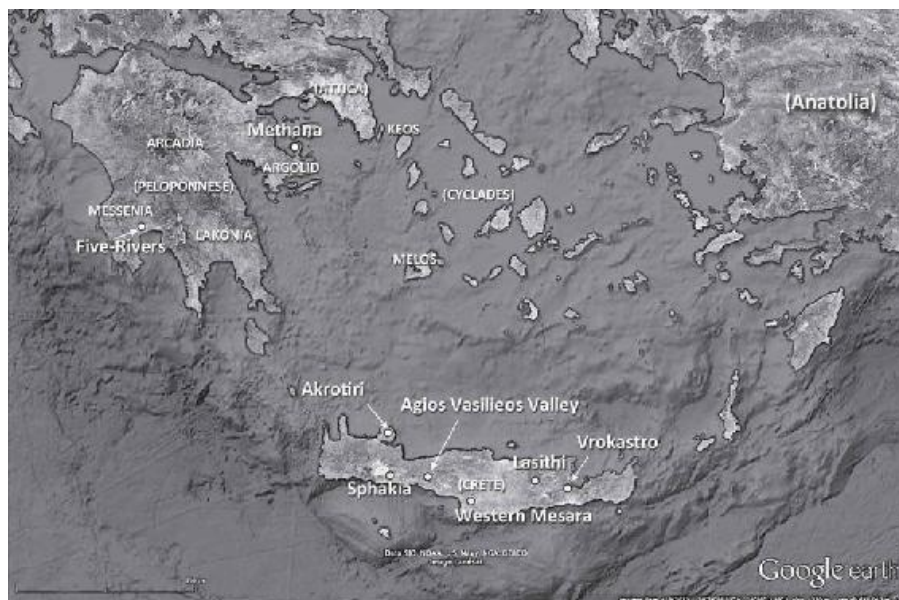
Marine cores are analyzed for their microfossils, stable isotopes, mineralogy, and sapropels. Microfossils are tiny-shelled animals sensitive to salinity, temperature, and water depth. Stable isotopes, especially of oxygen and carbon, are used for reconstructing temperature and humidity. McCormick *et al.* (2012a, 209–10) provide a good description of how this works. Sapropels are dark, organic deposits that form on the sea floor in anoxic conditions. They are typically associated with periods of warm, humid climate, but the relationship is not entirely straightforward (Triantaphyllou *et al.* 2009).

Most cores from the south and central Aegean cover the Roman epoch, but are poorly dated and contain little detail (Geraga *et al.* 2000; 2005; 2010). LC 21 from the straits of Karpathos may be an exception (Rohling *et al.* 2002; 2009). Marino *et al.* (2009, 2009S) fine-tune the chronology of this important core and reconstruct summer and winter sea-surface-temperatures (SSTs) (<http://www.soes.soton.ac.uk/staff/ejr/ejrhome.htm#2009>).

#### *Speleothems*

Cave deposits also contain climate information (McCormick *et al.* 2012a, 176, fig. 1b). Stable isotopes in stalagmites and stalactites (also called speleothems) are proxies for precipitation and temperature. There is one published record from the Peloponnese in Greece (Kapsia Cave in Arcadia: Finné *et al.* 2014), and a project is underway on Crete. Three other studies provide regional contexts: Anatolia (Sofular Cave: Fleitmann *et al.* 2009), Romania (Poleva Cave: Constantin *et al.* 2007), and the Levant (Soreq Cave: Orland *et al.* 2009; 2012). Two recent assessments of Roman epoch climate proxies question the dating used by Orland *et al.* in their 2009 study and do not discuss it (McCormick *et al.* 2012a; Manning 2013). Neither article explains

clearly why they consider the dating questionable (McCormick *et al.* 2012a, 213, n. 41; Manning 2013, 146, n. 39). Other recent studies also do not question the chronology (Finné *et al.* 2011; Haldon *et al.* 2014). Although Orland's research is peripheral to the southwest Aegean and not critical to this study, it is an important addition because it attempts to get at seasonal paleoclimate data, which is otherwise lacking in east Mediterranean proxies. With respect to the southwest Aegean, the dating of core(s) by Orland *et al.* (2009) is no coarser than many of the climate proxies considered here.



*Figure 6.3 Map showing the main climate proxy locations used in this paper: south Aegean. Base image: Google Earth 2013.*

### *Geomorphology*

Geomorphological studies are touted as climate proxies too. Like pollen records in the southwest Aegean, however, they are coarsely dated, and distinguishing climate and human agency is challenging. A fundamental rule in eroding environments is that it takes a stronger force (wind, water, *etc.*) to move larger elements. For example, in fluvial settings, gravel deposits require faster moving water than sand to be deposited; sand requires faster moving water than silt or clay. Windblown or aeolian deposits are characteristic of dry environments.

More controversial is interpreting the causes of down-cutting (incision) in a riverbed versus its in-filling with sediment (alluviation). Fundamentally, it is a balance between sediment input, the steepness of the riverbed, and the force of the water. Changes in climate, land



use, and vegetation cover can cause this balance to shift. Still, incision is often associated with low precipitation and episodic flooding, and alluviation is associated with excessive precipitation and slope erosion (Macklin *et al.* 2002; Macklin and Woodward 2009; Macklin *et al.* 2010).

A number of scholars argue that during the Holocene “... initial human impact triggered the enhanced soil erosion while climate just amplified soil erosion rates” (Fuchs *et al.* 2004, 342; see also Pope and van Andel 1984; van Andel *et al.* 1990; Fuchs 2007). Dusař *et al.* (2011, 152, fig. 10) strike a middle road and reconstruct three broad phases of sedimentation in the eastern Mediterranean, noting that the dates are approximate and vary with locality. Most of the Roman epoch falls within Phase 2 (c. 3000 BC–AD 500), when human impact is considered to be the main agent driving strong erosional episodes. Phase 3 (c. AD 500–present) is said to be a time of moderate-to-strong human impact but with less erosion, primarily because there is little sediment left to erode. Or so it is said!

There are many relevant studies for the southwest Aegean. The ones considered here are from Crete: Morris (2002) in Lasithi, Pope (2004) and Macklin *et al.* (2010) in the Mesara and from the Greek mainland: van Andel and Runnels (1986) in the southern Argolid, Fuchs *et al.* (2004) in the Phlious Basin (northeast Peloponnese), Paeppe *et al.* (1984) in Attica, Unkel *et al.* (2014) in Arcadia (central Peloponnese), Pope *et al.* (2003) in the Sparta Basin, and Zangger *et al.* (1997) in Messenia. The fascinating geoarchaeological study of karst basins in Zominthos (Siart *et al.* 2010) is too coarsely dated to be of use for the Graeco-Roman period. The pedological variation seen in the cores, however, could involve climate change. Promising forthcoming studies include two from Crete, one from northwest Crete (Besonen *et al.* 2011) and another from Phaistos (Ghilardi *et al.* 2012).

### *Texts*

More subjective than the forgoing proxies but certainly illuminating are the climate and weather observations made by ancient writers (Lamb 1977, II, 1–5; 1982, 9, 156–9). Panessa’s (1991) collection of Greek and Roman texts dealing with climate and weather is a good place to start. Neumann (1985) and Reale *et al.* (2000) discuss a few ancient sources and relate them to modern climatology. McCormick *et al.* (2012b) have tabulated over 700 comments by ancient writers from c. 86 BC to AD 716 but include no references to the southwest Aegean. For the Byzantine period, the compendium by Telelis (2004)

is excellent. The most rewarding research, however, is to go through the ancient texts themselves and read firsthand what they have to say.

To set the Roman climate in the southwest Aegean in a chronological framework, I begin in the Hellenistic period and end in the Byzantine period. The cultural and political changes in the southwest Aegean covered by this time frame were vast. Small, independent, warring city-states (Polybius; Ager 1994; Raab 2001; Chaniotis 2005; Shipley 2005) were melded into huge provinces of the Roman Empire (Pausanias; Sanders 1982; Harrison 1994; Alcock 1996; Sneeringer 2011; Chevrollier, this volume). The area then experienced the chaos of the Empire's break up and was host to some of the period's bloodiest battles. Eventually, the region was re-organized into provinces of the Byzantine Empire (Tsougarakis 1988; Ince *et al.* 1989; Sanders 1996; Kourelis 2003). It would not be until the late 19th century that parts of the southwest Aegean would regain their independence.

## **The southwest Aegean climate in Hellenistic, Roman, and Byzantine times**

### ***Before 100 BC***

#### ***Stable isotopes and microfossils***

Isotopes and microfossils in LC 21 from the straits of Karpathos indicate evaporative conditions with cold but warming temperatures after *c.* 300 BC (Rohling *et al.* 2002, fig. 1). Oxygen isotope values rose during the Hellenistic period, suggesting that the 2nd century BC may have been even drier. Reconstructed summer and winter sea surface temperatures (SSTs) show a slight warming. It is important to remember that sea surface temperatures differ from the air temperatures that we experience on land. Water warms and cools more slowly than air, indicating that changes in SSTs represent much greater air temperature changes (Bartzokas and Metaxas 1994). During the 20th century, mean annual air temperatures in coastal Crete ranged from *c.* 17.7° to *c.* 18.5°C (Metaxas 1990, 23, fig. 4.1a; Metaxas *et al.* 1991). Mean summer temperatures between 1950 and 1999 ranged from 24.7°C in Chania to 25.9°C in Ierapetra (Xoplaki 2003, 539, fig. 1a).

Marine cores C9 and C40 taken near Santorini are too poorly dated to be of detailed use (Geraga *et al.* 2000; 2005). The microshells, stable isotopes, and pollen recovered, however, show two cold events



above a layer of volcanic ash, likely from the Minoan eruption c. 1600 BC (Cherubini *et al.* 2014; Freidrich *et al.* 2014). The earlier cold event probably correlates to the 1st millennium BC ‘little ice age event’ discussed below and the latter to the AD 1300–1850 ‘Little Ice Age’ (Grove 1988; 2004).

A core from the central Aegean MNB3 near Skyros is slightly better dated and shows a similar sequence above a layer of Santorini ash (Geraga *et al.* 2010). Cold water microshells peak c. 1200–400 BC and probably correlate to the 1st millennium BC ‘little ice age event.’

### *Speleothems*

The single speleothem record from the southwest Aegean comes from Arcadia in the central Peloponnese and indicates wetter conditions 400–100 BC (Finné *et al.* 2014, 221, fig. 7). This is at odds with the isotope and microfossil record from Aegean marine cores. Perhaps, however, especially cold conditions in the landlocked central Peloponnese greatly reduced evaporation and resulted in a net increase in available moisture.

### *Pollen*

The Kournas pollen core from Crete (Bottema and Sarpaki 2003) might cover these centuries, but the possibility of an undetected sediment hiatus (Besonen *et al.* 2011) calls into question the chronology of the lower half of the record. These deposits are therefore not considered in this paper. Another core taken in the Omalos Plain (1060 m) indicates drier conditions after 400 BC (Ghosn *et al.* 2010), but it is very broadly dated and provides little detail. Pollen records from Messenia (Yazvenko in Zangger *et al.* 1997) and Attica (Kouli 2011) are remarkably similar; deciduous and evergreen oaks were increasing, and olive was declining from peaks in the Archaic and Classical period. At Lake Lerna in the Argos Plain (Jahns 1993), things were different: evergreen oak was at its lowest in the core, deciduous oak had a low peak, and olive was high. The margin of error in the radiocarbon dates, however, makes it difficult to know how precise the comparisons are (Jahns 1993, 191, table 2).

### *Erosion*

Evidence for slope destabilization during the Hellenistic period is found throughout the southwest Aegean. The Lower Flambouro alluvium accumulated in the southern Argolid at 300–50 BC (Pope and van Andel 1984, 301; van Andel *et al.* 1990). In the Sparta Basin, major deposition in multiple alluvial fans, which in one location

buried the early Hellenistic temple of Eleusinion by 2.8 m, is dated to the early and middle-Hellenistic period (Pope *et al.* 2003, 711, 715, fig. 11; 716–7). In Attica, the Eridanos flood gravels were deposited c. 300–100 BC (Paeppe *et al.* 1984, 59–60). In Messenia, where erosion is said to be largely due to lithology and tectonic uplift, the uplands are typically incised and the lowlands buried, but no individual erosional events are described or dated (Zangger *et al.* 1997, 556–7).

Further south, on Crete, an erosion event dated between Hellenistic and early Roman times was recognized in the western Mesara (Pope 2004, 51–2) and in the Ayiofarango Gorge (Doe and Holmes 1977, 21–3). In the Frangokastello Plain, a poorly defined unit containing Greek and possibly early Roman pottery was observed (Moody 2000, 57). Minor deposits in the Chania Plain have also been noted (Grove and Rackham 2001, 296–8).

On the island of Melos, alluviation is said to have begun c. 1000 BC and continued nonstop until AD 500 (Davidson and Tasker 1982, 90). The discovery of a buried Hellenistic to early Roman building (Davidson and Tasker 1982, 84), however, argues for a long enough period of slope stability for this structure to have been built and occupied. Extreme rainfall events were proposed as the cause of deposition.

Most of these colluvial and alluvial deposits are interpreted as the result of land use change associated with either declining or increasing agricultural activity – climate change is only peripherally considered (Pope 2004, 55–7). The deposits in Crete, however, were broadly contemporary with a period of incision in the Anapodaris riverbed, which began c. 1000 BC and stopped c. 70 BC (Macklin *et al.* 2010, 49). The incision was attributed to drier climate conditions.

### *Texts*

Comments by contemporary ancient writers reveal that they considered their climate to be unstable and subject to large interannual and regional variance. Aristotle, writing c. 350 BC observed:

... some years are rainy and wet, others windy and dry. Sometimes there is much drought or rain, and it prevails over a great and continuous stretch of country. At other times it is local; the surrounding country often getting seasonable or even excessive rains while there is drought in a certain part; or, contrariwise, all the surrounding country gets little or even no rain while a certain part gets rain in abundance. (*Mete.* 2. 4)

Summer rain was known, as Aristotle noted that the *drepanis* bird was only seen “... after rainy weather in summer” (*Hist. An.* 1.1). It is not always clear, however, where in Greece Aristotle was writing about.

Theophrastus, in c. 300 BC, was clearly writing about Crete when he referred to a time in the past when cultivation went higher in the mountains:

If it is true what the Cretans among others say, that nowadays the winters are more severe and more snow falls, adducing as evidence that the mountains were settled in olden times and bore grain and fruit as the land was planted and tilled. For there are extensive plains among the mountains of Ida and in the other mountains, none of which are worked now because they do not bear. Whereas in those days ... they were settled ... because the rains were generous, and wintry weather did not occur, if then what they say is true, the etesian winds must be more numerous (to-day). (*Vent.* 13)

He also claimed that snow lasted all year on the White Mountains of Crete (*HP* 4.1.3). He noted that olives were no longer cultivated in Larissa in central Greece because the “region became colder and freezing more frequent” (Theophrastus *HP* 5.14.2–5). Such comments indicate that the southwest Aegean climate at the time had strong winters but that there was a memory (or perhaps other indicators like abandoned settlements and dead trees at higher elevations) of an earlier time when it was not so cold.

### *Summary*

The data, sparse as they are, suggest that the southwest Aegean climate in the 3rd and 2nd centuries BC was cold and relatively dry with substantial interannual variability. Such conditions would have resulted in a short growing season, less land available for cultivation than had been in the past, and rather unreliable harvests.

Seasonal drought would have made mountain pastures, such as the *madhares* of the White Mountains in Crete, critical resources for cultures with herding economies. Cold temperatures, however, would have made them available for a relatively short period, as cold temperatures would have maintained the reduced amount of cultivable land.

There is some evidence that Arcadia in the central Peloponnese experienced a net gain in moisture during these centuries. Whether this was due to increased precipitation or cold temperatures lowering evaporation is not known. At present, we do not have enough data to

know if similar conditions existed in other inland, mountainous parts of the southwest Aegean.

The cold temperatures recorded in these proxies coincided with colder temperatures across the Mediterranean. One manifestation was advances in alpine glaciers collectively called the Göschenen I Advance. This ‘little ice age event’ began in the 11th century BC, peaked in the 6th century, and faded away during the 3rd century BC (Grove 2004; Holzhauser *et al.* 2005; Ivy-Ochs *et al.* 2009, 2144).

## **100 BC–AD 200**

### *Stable isotopes and microfossils*

Stable isotopes and microfossils in LC 21 indicate that conditions were wetter and winters were warmer during the 1st century BC; oxygen isotope values were at their lowest in several thousand years, and warm water microshells increased to 100% (Rohling *et al.* 2002). Reconstructions of annual sea surface temperatures (SSTs) show a 0.5°C rise from the 6th to 1st centuries BC, primarily attributed to increasing winter temperatures (Marino *et al.* 2009b). It is said that a rise in annual ambient temperature of 0.6°–1°C could increase the land available for cultivation by 100 m elevation (Grove and Rackham 2001, 28; Wilson 2013, 263). Such estimates are based on a standard meteorological measurement called a *lapse rate*, i.e. the change in temperature with elevation (Lamb 1977, I, 70). The standard dry adiabatic lapse rate is about 1°C of cooling for every 100 m rise in elevation; the standard wet adiabatic lapse rate is about 0.6°C cooling for every 100 meters.

Warmer temperatures increase the rate of evaporation. During these centuries, however, low oxygen isotope values indicate a substantial drop in evaporation. The combination of warmer temperatures and decreased evaporation therefore signify a significant increase in precipitation.

### *Speleothems*

The speleothem record from Kapsia Cave in Arcadia (Peloponnese) records a major flood c. 70 BC and then very dry conditions between AD 100–150 (Finné *et al.* 2014, 221, fig. 7). Such conditions are again at odds with the isotope and microfossil record from the Aegean Sea. It may be that the increase in temperatures noted in other proxies was greater in the central Peloponnese, causing higher rates of evaporation. If not compensated by an increase in precipitation, this would result in a net loss of available moisture in the landscape.

## *Sapropels*

The development of ‘incipient’ sapropels in the Aegean (Giresse *et al.* 2003, 660, fig. 4; 664) may also signify wetter conditions. Sapropels are said to be formed during especially wet and warm conditions (see above). Some researchers have associated sapropels with the development of a southern storm track that could have brought more rain to south Crete and North Africa (Rohling 1994, 7–8; Rossingel-Strick and Paterne 1999; Arz *et al.* 2003; Tzedakis 2007; Marino *et al.* 2009a; Triantaphyllou *et al.* 2009a).

## *Pollen*

Pollen records from the southwest Aegean indicate a general increase in trees, especially oaks. At Vravron marsh in Attica (Kouli 2011), at Pylos (Yazvenko in Zangger *et al.* 1997), and at Lerna (Jahns 1993), deciduous oak pollen peaks, while at Psatha, near Megara (Jahns 2003), evergreen oak peaks. Olive pollen continued to decline from peaks in Archaic and Classical times to moderate levels at Lerna and Pylos, shows low levels at Psatha (Jahns 2003), and all but disappeared from Vravron marsh (Kouli 2011). The increase in trees and other vegetation correlates well with the warmer and wetter climate, but the continuing decline in olive pollen is a puzzle. One might have expected an increase in olive cultivation in the southwest Aegean with the warming temperatures, but so far evidence for this is elusive.

## *Erosion*

Overall, the data suggest a period of remarkable slope stabilization across the southwest Aegean. Fine-grained alluvial events in the Anapodaris River date to c. AD 100 and suggest minor, low-energy floods possibly coupled with changes in land use up-stream (Macklin *et al.* 2010, 49). The river catchment saw no further significant action until the early Byzantine period. By AD 100, alluviation had stopped in the Ayiofarango Gorge (Doe and Holmes 1977). In the Frangokastello Plain a thin, poorly defined unit containing Greek and possibly early Roman pottery was observed (Moody 2000, 57). No erosional events in the western Mesara (Pope 2004), Chania Plain (Grove and Rackham 2001 296–9), or Ag. Vasileios Valley (Moody 2000) have been dated to these centuries.

Cores taken in Messenia indicate silt deposition along the coast up to c. AD 140 when it changes to clay (Zangger *et al.* 1997, fig. 24), suggesting a decline in flood intensity after the mid-2nd century. In the southern Argolid, deposition of the Lower Flambouro alluvium

stopped (Pope and van Andel 1986; van Andel *et al.* 1990).

Parts of the Peloponnese, however, were subject to more or less continual erosion. The Phlious Basin in the northeast Peloponnese contained significant colluvial deposits broadly dated to the Roman period (1st century BC–6th century AD). They are largely attributed to intensive land use; climate is considered to be of only secondary importance (Fuchs *et al.* 2004, fig. 9, 344). In the Asea Valley of Arcadia, alluviation continued unchanged from the Hellenistic period.

### *Texts*

At present no ancient texts are known that refer to weather or climate in the southwest Aegean for these centuries.

### *Summary*

The climate of the first two or three centuries of the Roman period in the southwest Aegean was wet and warm and unparalleled for several thousand years. These conditions favored an increase in vegetation, which helped stabilize slopes and discouraged erosion. Mild, wet summers and warm winters would have lengthened the growing season and allowed frost-sensitive crops like olives to be grown at higher altitudes (although there is no indication that this happened!). Mountain pastures should have been more accessible, but perhaps not needed given the longer growing season at lower elevations.

The central Peloponnese was again different, exhibiting instead a drying trend.

## **AD 200 to 600**

### *Stable isotopes and microfossils*

The 3rd, 4th, and 5th centuries AD were significantly drier in the southwest Aegean, prompting one investigator to call conditions in the Cretan mountains a Roman ‘dust bowl’ (Morris 2002, 43). Arid conditions may have been most severe in the 5th century AD (Marino *et al.* 2009b; Besonen *et al.* 2011).

Oxygen isotopes values from LC 21 (Rohling *et al.* 2002, fig. 1; Marino *et al.* 2009b), equaled those recorded for the ‘4200 BP’ aridity event at the end of the early Bronze Age (Weiss *et al.* 1993; Dalfes *et al.* 1997), indicating significant evaporation. Reconstructed annual sea surface temperatures also were at their coldest in 1000 years (Marino *et al.* 2009b). Between the 3rd and 5th centuries AD, temperatures dropped nearly 0.5°C. Since cooler temperatures reduce evaporation, their combination with increased evaporation signify a decline in

precipitation.

### *Speleothems*

Isotope studies of speleothems in Kapsia Cave indicate a ‘wetter’ than average period between AD 160 and into the early 4th century. The rest of the 4th and 5th centuries were drier, but punctuated by a major flood c. AD 450 (Finné *et al.* 2014, 221, fig. 7).

The record for the late 2nd and 3rd centuries AD is at odds with the isotope and microfossil record from the Aegean Sea and the pollen record. It may have been, however, that the increase in available moisture was due to colder temperatures rather than an increase in rainfall.

### *Pollen*

Pollen records from Messenia (Yazvenko in Zangger *et al.* 1997), the Argolid (Jahns 1993), and Attica (Kouli 2011) show marked declines in deciduous oak and hornbeam but strong increases in evergreen oak, which is more drought tolerant. Drought-tolerant pistachio was also either stable or increasing. Olive pollen percentages were moderate to low and stable or declining. The core from Vravron marsh in western Attica (Jahns 2003) was dominated by pine, but otherwise correlates well with the other mainland Greece pollen records. No pollen cores from Crete are dated well enough to be considered here, as previously noted. The increase in drought-tolerant trees and decline in more moisture-loving ones is in line with the arid conditions indicated by other proxies. The general increase in trees may be attributed to a ‘re-wilding’ of landscapes no longer cultivable due to increased drought and frost (Haldon *et al.* 2014, 137).

### *Erosion*

Soil studies near the site of Karphi in the Lasithi Mountains of Crete found a soil dated to c. AD 240 buried by a silty, aeolian deposit (Morris 2002, 34), indicating arid conditions during and/or after the mid-3rd century AD.

Paepe identified a sediment at several sites in Attica as belonging to a dry cycle based on clay mineralogy (Paepe *et al.* 1984, 59–60; Paepe 1986, 55). Using pottery sherds and associated architecture, he dated the sediment to the 2nd, 3rd, and 4th centuries AD. This deposit was followed by the Illissos gravel deposit, which he roughly dates to the 4th–5th century, suggesting strong, episodic floods.

There is no well-dated evidence for slope destabilization during these centuries in the southwest Aegean. Alluviation is said to have

continued on Melos until AD 500 or even later, when riverbed incision began (Davidson and Tasker 1982, 91–2). In south Crete, there is no evidence for accumulation or incision in the Anapodaris River (Macklin *et al.* 2010, 49), nor were any erosional events noted in the western Mesara (Pope 2004), the Ayiofarango (Doe and Holmes 1977), or the Frangokastello Plain (Moody 2000).

Evidence supporting aridity may come from depositional gaps in two Cretan lakes that began in the 4th and late 5th centuries AD (Besonen *et al.* 2011). These gaps are interpreted as the desiccation of the lakes and the subsequent erosion of their exposed bases. A gap in the Psatha core near Megara on the Greek mainland is broadly contemporary (Jahns 2003, 128, fig. 2) and could represent similar conditions. Tectonics, however, could also have contributed to the formation of these gaps. The Cretan lakes are karst lakes and subject to the blocking and unblocking of their drainage holes, which can be caused by earthquakes, among other things; Pliny mentioned the role of earthquakes in the drying up or coming forth of springs (NH 31.30.54).

### *Texts*

Contemporary texts that refer to weather or climate in the southwest Aegean are few. Pausanias, writing in the 2nd century AD, noted that the streams of Lerna ran all year (2.15.5) and that Alcyonian Lake was ‘bottomless’ (2.37.5). This was probably the ancient name of Lake Lerna, where the pollen core considered in this paper was taken (Jahns 1993). Pausanias also noted that the place Aspledon in Boeotia was abandoned because of a water shortage, but did not say when or how (9.38.9).

### *Summary*

Conditions in the southwest Aegean between the 3rd and 6th centuries AD were significantly drier and cooler. The pollen record showed a drying trend from c. AD 200. Landscape desiccation in the Cretan mountains occurred during or after the mid-3rd century AD. High oxygen isotope values in LC 21 indicated arid conditions beginning in the 3rd century AD. In the central Peloponnese, speleothem isotopes show that drying did not begin there until the mid-4th century. Possible lake desiccations in Crete and Attica dated from the 4th to the 6th century AD. Alluvial deposits were post-AD 400. Arid conditions would have increased demand for upland pastures, while cold temperatures would have restricted their access and shortened the growing season.



The cold sea surface temperatures reconstructed from data in LC 21 also indicate a decline in available cultivable land by about 100 m elevation.

## **AD 600–1000**

### *Stable isotopes and microfossils*

The stable isotopes and microfossils in LC 21 indicate that these centuries were especially unstable (Rohling *et al.* 2002, fig. 1). Reconstructed annual sea surface temperatures flip-flopped about 0.5°C four times between c. AD 600–1100, sometimes accompanied by increased evaporation, sometimes by less (Marino *et al.* 2009b). The dating problems associated with this core make the timing of these changes imprecise (Rohling *et al.* 2002, 590–1; Marino *et al.* 2009a, 3249–50). The relative sequence, however, should be reliable. Initially, temperatures warmed about 0.5°C accompanied by a slight decline in evaporation. This combination suggests an overall increase in precipitation. This was followed by temperatures cooling 0.5°C accompanied by a decline in evaporation, suggesting little change in actual precipitation. Then temperatures rose about 0.6°C accompanied by a decline in evaporation, indicating an increase in precipitation. Finally, temperatures cooled about 0.4°C accompanied by an increase in evaporation. This combination suggests a decline in precipitation. If we accept the dates reconstructed for LC 21, then the onset of warmer and wetter conditions happened by the 7th century AD, and the development of cold and dry conditions happened between the 10th and 12th centuries, i.e. in middle Byzantine times.

### *Speleothems*

The speleothem record from Kapsia Cave in the Peloponnese indicates drying conditions in the 7th and 8th centuries, with a nadir AD 650. Conditions then became suddenly ‘wetter’ in the late 8th century, peaking c. AD 800 (Finné *et al.* 2014, 221, fig. 7). This record may be at odds with other proxies from the southwest Aegean, but their imprecise dating makes it hard to be sure.

### *Sapropels*

The possible formation of an ‘incipient’ sapropel in the southwest Aegean suggests wetter conditions, but dating is approximate (Schilman *et al.* 2001, 165; Giresse *et al.* 2003, fig. 4).

### *Pollen*

Pollen records from Lerna (Jahns 1993), Vravron in Attica (Kouli

2011), and Asi Gonia in Crete (Atherden and Hall 1999) all showed increases in drought-sensitive trees such as tilia, hornbeam, hazel, and deciduous oak for some or most of these centuries, suggesting an increase in available moisture. The Asi Gonia core from Crete, which began in the 6th or 7th century AD, had non-forest indices (NFIs) of 50 or less until c. AD 1000, indicating periods of very dense savanna or woodland. The charcoal record there was also low for this period, suggesting that landscape fires were rare at this elevation. This is another possible indicator of moister conditions, since fire frequency has been linked to the intensity and length of the summer dry season (Vannière *et al.* 2011). The increases in woodland seen in these the cores could also be interpreted as a ‘re-wilding’ of the landscape following a decline in cultivation (Haldon *et al.* 2014, 137).

Olive pollen declined at Pylos (Yazvenko in Zangger *et al.* 1997, 594–5), Lerna and on Crete, possibly due to increased frosts. At Vravron in Attica, however, olive increased slightly.

The pollen record from Pylos in the southwest Peloponnese was different. Oak pollen dropped to its lowest value in over 1000 years and pine was very low, both suggesting increased land clearance. Grape and carob pollen appeared for the first time too, also suggesting increasing human impact.

At Asi Gonia in upland Crete, NFIs rose abruptly to 500+ after c. AD 1000, indicating a treeless landscape and substantial human impact in middle Byzantine and early Venetian times.

### *Erosion*

Evidence for erosion during and after this period is abundant (van Andel *et al.* 1990, 391). These deposits are often associated with Vita Finzi’s ‘Younger Fill’ (1969), but they are far from synchronous (Wagstaff 1981; Grove and Rackham 2001, 290–311). Examples from the southwest Aegean were found at Olympia, where five to six meters of brown fill accumulated after AD 600 (Grove and Rackham 2001, 292). In the Sparta Basin, a depositional event during the late-Roman or early Byzantine period is documented, but this stopped by the middle Byzantine period (Pope *et al.* 2003, 711). In the Asea Valley of Arcadia, there was an increase in the alluviation rate c. AD 1000 (Unkel *et al.* 2014, 94). The Upper Flambouro alluvium in the southern Argolid could be as early as the 9th century AD (van Andel *et al.* 1990, 383). It is characterized by debris flows, a type of slope erosion that requires the water saturation of loose sediment on slopes of over 25°. Such events are often triggered by intense, episodic

rainfall, but once the conditions are met, other agents, such as earthquakes, can trigger debris flows.

In Crete, the Anapodaris riverbed in the eastern Mesara accumulated fine-grained flood sediments between AD 870 and 900 (Macklin *et al.* 2010, 49). In the western Mesara, a small alluvial event took place some time after AD 1000 (Pope 2004, 51). Near Angouseliana in the Ag. Vasileios Valley, an alluvial deposit containing late Roman to Byzantine sherds and capped by a 16th century chapel was recorded (Moody 2000, 57–8). Parts of the Chania Plain were also buried between Roman and middle-Byzantine times, although more research is needed to refine the sequence (Moody 1987, 11, 30–1; Grove and Rackham 2001, 296–9). All significant erosional events in the Vrokastro survey area were post-Roman (Hayden 2005, 20–31). In Melos, riverbed incision continued (Davidson and Tasker 1982).

### *Summary*

Stable isotope and pollen data suggest that the 8th–9th centuries AD were less evaporative in the southwest Aegean. By the 11th century, however, conditions were again arid. Initially, trees increased across the region, except in Messenia, where the landscape seemed to have been cleared for vine and carob cultivation. After AD 1000, however, trees declined nearly everywhere, most likely by human agency.

## **Roman climate beyond the southwest Aegean**

McCormick *et al.* (2012a) present a preliminary reconstruction of the Roman climate from c. 100 BC to AD 900 for central Europe and the central and eastern Mediterranean (the eastern Mediterranean comprising the Levant, Egypt, and Anatolia, but excluding the Aegean) using eleven well-dated climate proxies. They have also compiled a geodatabase of supporting information now available online (McCormick *et al.* 2012b). They divide the Roman climate into four broad phases, which I summarize below (see [Table 6.1](#) for supporting details).

Haldon *et al.* (2014) have investigated the Byzantine climate of Anatolia, focusing on what would be McCormick and his colleagues' Phases 3 and 4. This data is incorporated in the discussion below and [Table 6.1](#). The terms used in the phase descriptions below are those of McCormick *et al.* (2012) and Haldon *et al.* (2014).

### ***Phase 1: the Roman Optimum – stability from c. 100 BC to AD 200***

This period is characterized by warming temperatures and increasing moisture in the eastern and central Mediterranean and in Europe. In the second half of the 2nd century AD, conditions begin to dry out.

### ***Phase 2: Instability and initial recovery AD 200–400***

By the middle of the 3rd century AD, conditions in the central Mediterranean and Europe were unstable, cold, and dry. After AD 300, however, there are signs of warming and increased precipitation in central Europe and France. It is not clear how far-reaching this amelioration of the climate was.

In the eastern Mediterranean, conditions became much drier in the 3rd century too. It is not clear if temperatures became cooler, and evidence for a 4th century recovery is elusive. In the Levant, Dead Sea levels suddenly rise, but there is disagreement on when this happens: c. AD 300 or c. AD 400 (McCormick *et al.* 2012a, 217–9).

These cooler conditions were contemporary in part with the Göschenen II Advance, a ‘little ice age event’ in the Alps with two maxima: AD 500–600 and AD 800–900 (Ivy-Ochs *et al.* 2009, 2144). The response time of small mountain glaciers to climate change is said to be between three and 30 years (Nye 1960; Oerlemans 2005).

### ***Phase 3: instability returns AD 400–600***

In the central Mediterranean and Europe, warmer and much drier conditions developed in the 5th century, especially after AD 450. Conditions were unstable and were frequently punctuated by severe winters. In the 6th century, temperatures turned cold and floods became more frequent in France and Italy.

Climate conditions seem to have been different in the eastern Mediterranean, at least in the Levant where it was wet in the 5th century. In southeast Anatolia, however, it continued to be dry. Then, in the first half of the 6th century, it suddenly became wetter and possibly cooler throughout the region.

### ***Phase 4: From instability to recovery? AD 600–800***

The 7th and 8th centuries experienced a gradual increase in temperature and precipitation in the central Mediterranean and Europe. By AD 800, however, things once again turned cold.

In the eastern Mediterranean, mild, wet conditions continued up to about AD 650, when they became drier and cooler. In the late 7th and 8th centuries, the Levant became suddenly drier and remained so up

to AD 1200. Southwest Anatolia also trended drier from the mid-7th century up to the mid-10th century (Haldon *et al.* 2014, 149). In central Anatolia, however, conditions remained wet into the mid-8th century AD, when they became moderately dry (Haldon *et al.* 2014, 142, table 3). In the mid-10th century, conditions became moderately wet.

These centuries include the second maxima of the Göschener II ‘little ice age’, AD 800–900 (Ivy-Ochs *et al.* 2009, 2144).

## Comparisons with the southwest Aegean and its settlement history

Does our limited data from the southwest Aegean concur with these reconstructed climate scenarios from outside the southwest Aegean? For the most part, yes.

### Phase 1

The so-called Roman Optimum was certainly experienced in the southwest Aegean. Climate proxies from the Aegean Sea, Crete, Attica, and parts of the Peloponnese indicate the warmest and wettest conditions in 2200 years for the 1st century BC and the 1st century AD. Arcadia in the central Peloponnese may have been different: the isotope record from there indicates a decline in available moisture during these two centuries.

*Table 6.1 Preliminary Roman climate reconstructions for Central Europe, the central Mediterranean, the southwest Aegean, and the eastern Mediterranean*

| Chronology                           | Climate Comment                                                                                                                                                                                                                                                                                                     | Central Europe                                                                                                                                                                                                                                                                               | Central Mediterranean                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | SOUTHWEST AEGEAN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | Eastern Mediterranean                                                                                                                                                                                                                                                                                                                  |
|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| +1st C. BC<br>(+100–0 BC)<br>Phase 1 | Unstable to stable<br>Central: warming but<br>still cool, increasing<br>moisture<br>SW Aegean: conditions<br>are first free<br>increasing moisture<br>and temperatures, but<br>still relatively cool and<br>dry; slow stratification<br>after c. 50 BC<br>East: wet with<br>common rain, but Nile<br>floods are low | alpine glaciers retreating (Ivy-Ochs<br><i>et al.</i> 2009)<br>moderate volcanic activity (Zielinski<br><i>et al.</i> 1994; McCormick <i>et al.</i> 2012a,<br>table 1)<br>tree rings indicate moist stable<br>conditions (Büntgen <i>et al.</i> 2005;<br>Dittgen <i>et al.</i> 2011a; 2011b) | 479 BC: Italy was much<br>afflicted by drought (Liv. 4.30.7–11)<br>208 BC: Heat storm near<br>the Balearic Islands (Liv. 25.37.7)<br>181 BC: dry and death of<br>crops in Italy. The absence<br>of rain for 6 months caused<br>the Romans to consult the<br>Sibylline Books and to make<br>a supplicatio (Liv. 40.29.2),<br>i.e. 47 BC: stormy winter and<br>spring weather ( <i>B. after.</i> 47,<br>53, 63, 98)<br>moderate volcanic activity<br>(Zielinski <i>et al.</i> 1994;<br>McCormick <i>et al.</i> 2012a,<br>table 1)<br>Tiber floods (Aldeete 2003;<br>McCormick <i>et al.</i> 2012b)<br>food shortages and storms<br>in Rome and vicinity<br>(McCormick <i>et al.</i> 2012b) | temperatures are cool but<br>warming and precipitation<br>increasing (Rohling <i>et al.</i><br>2010; 2009; Martin <i>et al.</i><br>2009)<br>oaks and pines are increasing in<br>Messexia and Attica and olive<br>is low (Vardoulakis in Zangger <i>et al.</i><br>1997; Kothli 2011b) in Leros<br>oaks are low and olive is high<br>(Galan 1993)<br>erosion on coast near Lower<br>Eleutheroia alluviation in<br>southern Argolid c. 300–50<br>BC (Pope and van Andel<br>1981; van Andel <i>et al.</i> 1990);<br>Sparta Basin (Pope <i>et al.</i><br>2003)<br>Cretan alluviation (Pope 2004,<br>Doe and Holmes 1977) and<br>river incision c. 1000–70 BC<br>(Macklin <i>et al.</i> 2010)<br>Sedimentation & ecological<br>pollen in the Oenothos Plain<br>(V. Crete, 1960) and indicate<br>desiccation during summer and<br>flooding in winter since 600<br>BC and drier conditions since<br>400 BC (Giam <i>et al.</i> 2010) | c. 47 BC: stormy weather in<br>the autumn and winter season<br>( <i>B. after.</i> 45)<br>Dead Sea level high stand<br>(Ganot <i>et al.</i> 2009; Bookman<br><i>et al.</i> 2004; Migowski <i>et al.</i><br>2006)<br>Nile floods below average until<br>c. 30 BC, then they become<br>average or better (Bouman<br>1971; McCormick 2013) |

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| 1st C. AD<br>(AD 0–100)<br>Phase 1     | Stable<br>Central: warmer and<br>moister conditions.<br>Winters still cooler<br>than today's.<br>SW Aegean: Meiser<br>and warmer. Slopes<br>stable, rainfall must<br>have been drier.<br>East: wet and slightly<br>cooler?                 | alpine glaciers as small as they are<br>today (Iry-Ochs <i>et al.</i> 2009)<br>low volcanic activity (Zielinski <i>et al.</i><br>1994; McCormick <i>et al.</i> 2012a,<br>table 1)<br>onset of beech trees to the<br>anatomics; vines growing<br>farther north (Fin. <i>HN</i> ,<br>16.15, Col. 1.1, quoting the<br>Saxenians)<br>olives did not grow at Phry<br>the Younger's villa in the<br>Apennines though they do<br>today (Plin. <i>Ep.</i> 5.6)<br>lunar sometimes killed to<br>the ground at Phry's villa<br>(Plin. <i>Ep.</i> 5.6)<br>Tiber floods (Albiste 2007;<br>McCormick <i>et al.</i> 2012b)                      | low volcanic activity<br>(Zielinski <i>et al.</i> 1994;<br>McCormick <i>et al.</i> 2012a,<br>table 1)<br>onset of beech trees to the<br>anatomics; vines growing<br>farther north (Fin. <i>HN</i> ,<br>16.15, Col. 1.1, quoting the<br>Saxenians)<br>olives did not grow at Phry<br>the Younger's villa in the<br>Apennines though they do<br>today (Plin. <i>Ep.</i> 5.6)<br>lunar sometimes killed to<br>the ground at Phry's villa<br>(Plin. <i>Ep.</i> 5.6)<br>Tiber floods (Albiste 2007;<br>McCormick <i>et al.</i> 2012b) | evaporation initially<br>continues to decline, then<br>rises (Zielinski <i>et al.</i> 2002;<br>2009; Marino <i>et al.</i><br>2009a)<br>deciduous and evergreen<br>oak pollen in the<br>Peloponnese, Argolid<br>and Attica; olive declines<br>(Yazvenko in Zangger <i>et al.</i><br>1997; Jalms 1993; Konik<br>2011)<br>minor erosion. Phileas busta<br>colluvial deposits (Fuchs <i>et al.</i><br>2004)<br>Anapodis fine-grained<br>alluvial deposits c. AD 100<br>(Macklin <i>et al.</i> 2010)                                                                                                                                                              | Dead Sea level high stage<br>(Ezeli <i>et al.</i> 2003; Bookman<br><i>et al.</i> 2004; Migowski <i>et al.</i><br>2005)<br>rainfall twice today's and<br>cooler (Issar and Yair 1997)<br>temperature and precipitation<br>stability (Haiman <i>et al.</i><br>2003)<br>Nile floods average or better<br>(Bonneau 1971; McCormick<br>2012)                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| 2nd C. AD<br>(AD 100–200)<br>Phase 1–2 | Stable up to c. AD<br>155<br>Central: warm and<br>moist until the 2nd<br>half of the century<br>when it becomes dry<br>SW Aegean: wet then<br>dry?<br>East: wet with<br>some rain; dramatic<br>reduction in rainfall<br>between AD 100–200 | alpine glaciers as small as they are<br>today (Iry-Ochs <i>et al.</i> 2009)<br>low volcanic activity up to c.<br>AD 150 (Zielinski <i>et al.</i> 1994;<br>Roussignol and Durost<br>2007; McCormick <i>et al.</i><br>2012a, table 1)<br>Tiber floods decline after<br>AD 155 (Aldrete 2007;<br>McCormick, Harper <i>et al.</i><br>2012)<br>famine in Rome AD 167,<br>192 (McCormick, Harper <i>et al.</i><br>2012)                                                                                                                                                                                                                 | low volcanic activity up to<br>c. AD 150 (Zielinski <i>et al.</i><br>1994; Roussignol and Durost<br>2007; McCormick <i>et al.</i><br>2012a, table 1)<br>Tiber floods decline after<br>AD 155 (Aldrete 2007;<br>McCormick, Harper <i>et al.</i><br>2012)<br>famine in Rome AD 167,<br>192 (McCormick, Harper <i>et al.</i><br>2012)                                                                                                                                                                                               | evaporation initially<br>continues to decline, then<br>rises (Zielinski <i>et al.</i> 2002;<br>2009; Marino <i>et al.</i><br>2009a)<br>deciduous and evergreen<br>oak pollen in the<br>Peloponnese, Argolid<br>and Attica; olive declines<br>(Yazvenko in Zangger <i>et al.</i><br>1997; Jalms 1993; Konik<br>2011)                                                                                                                                                                                                                                                                                                                                          | summer rain (Tel. XVII.2;<br>Rostke and Dümmer 2000)<br>Dead Sea level high stage<br>(Ezeli <i>et al.</i> 2003; Bookman<br><i>et al.</i> 2004; Migowski <i>et al.</i><br>2005)<br>after AD 100 rainfall in the<br>Levant dropped 300–400 mm<br>(Gordon <i>et al.</i> 2009; Orland <i>et al.</i><br>2012)<br>Nile floods average or better<br>until AD 156, then they are<br>low to very low until AD 209<br>(Bonneau 1971; McCormick<br>2012)                                                                                                                                                                                                                                                                                                                                |
| 3rd C. AD<br>(AD 200–300)<br>Phase 2   | Unstable<br>Central, SW Aegean<br>and East: generally<br>dry and colder                                                                                                                                                                    | moderate number of volcanic events<br>(Zielinski <i>et al.</i> 1994; Roussignol<br>and Durost 2007; McCormick <i>et al.</i><br>2012a, table 1)<br>alpine glaciers begin to advance c.<br>AD 270 (Iry-Ochs <i>et al.</i> 2009)<br>3–5 major volcanic eruptions<br>resulting in severe winters AD<br>235–285 (Zielinski <i>et al.</i> 1994;<br>McCormick <i>et al.</i> 2012a, table 1)<br>pronounced decline in summer<br>rain in France and central Europe<br>resolving lowest c. AD 300 (Büntgen<br><i>et al.</i> 2011a, 2011b)<br>sharp cooling AD 243–253, then<br>gradual trend AD 315 (Büntgen<br><i>et al.</i> 2011a, 2011b) | moderate number of<br>volcanic events (Zielinski<br><i>et al.</i> 1994; Roussignol and<br>Durost 2007; McCormick <i>et al.</i><br>2012a, table 1)<br>3–5 major volcanic<br>eruptions resulting in<br>severe winters AD 235–285<br>(Zielinski <i>et al.</i> 1994;<br>McCormick <i>et al.</i> 2012a,<br>table 1)<br>a growing diminution in<br>rainfall is noted for North<br>Africa (Cyprian, North<br>Africa <i>Göteborg</i> IV 62;<br>McCormick <i>et al.</i> 2012b)                                                            | rapid increase in evaporation<br>(Zielinski <i>et al.</i> 2002/2009;<br>Marino <i>et al.</i> 2009a)<br>incipient saprope (Givasso<br><i>et al.</i> 2005)<br>deciduous and evergreen<br>oak pollen decline sharply<br>(Yazvenko in Zangger <i>et al.</i><br>1997; Jalms 1993; Konik<br>2011) except at Lerna (Jalms<br>1993)<br>dry phase sediments in<br>Africa (Paape <i>et al.</i> 1984;<br>Paape 1986)<br>'wetter' conditions in<br>Arcadia (Tunali <i>et al.</i> 2014)<br>dry anthesis event in Lucania<br>Mts (Munoz 2002)<br>Ptolemy notes that the<br>streams of Lerna run all<br>year and that the lake is<br>'bottomless' (Paus. 2.37.5,<br>2.36.7) | summer rain (Tel. XVII.2;<br>Rostke and Dümmer 2000)<br>Dead Sea level high stage<br>(Ezeli <i>et al.</i> 2003; Bookman<br><i>et al.</i> 2004; Migowski <i>et al.</i><br>2005)<br>SE Anatolia dry and increasing<br>aridity c. AD 250–300 (Jones<br><i>et al.</i> 2006; Halden <i>et al.</i> 2014)<br>AD 150–250 Nile floods low<br>(Bonneau 1971; McCormick<br>2012)<br>droughts in Palestine AD<br>210–220, 220–240, 254–270?<br>(McCormick <i>et al.</i> 2012b)<br>AD 300 (Fuchs <i>et al.</i> 2004)<br>Bookman <i>et al.</i> 2004) or 400<br>(Migowski <i>et al.</i> 2006) Dead<br>Sea levels begin to rise sharply<br>sand dune formation in Levant<br>(Issar <i>et al.</i> 1985)                                                                                       |
| 4th C. AD<br>(AD 300–400)<br>Phase 2   | Stable?<br>Central: cool then<br>warming and wetter<br>SW Aegean: very<br>dry<br>East: very dry                                                                                                                                            | no volcanic events (Zielinski <i>et al.</i><br>1994)<br>cooling continues to AD 365 when<br>confines warm up (Büntgen <i>et al.</i><br>2011a, 2011b)<br>the grain harvest in Gaul, in the<br>middle of the 4th century AD, took<br>place earlier than it does today,<br>(Amm. 16.11.19; Lamb 1977, 2, 5)<br>increase in rainfall peaking c. AD<br>350–420 (Büntgen <i>et al.</i> 2011a,<br>2011b)<br>alpine glaciers retreat by AD 400<br>(Iry-Ochs <i>et al.</i> 2009)                                                                                                                                                           | no volcanic events<br>(Zielinski <i>et al.</i> 1994)<br>AD 359 there was danger<br>of a famine in the city<br>of Rome because violent<br>country winds and an<br>unusually tempestuous sea<br>had prevented grain-laden<br>ships from reaching Ostia<br>(Amm. 19.10.14.)                                                                                                                                                                                                                                                         | rapid increase in evaporation<br>(Zielinski <i>et al.</i> 2002/2009;<br>Marino <i>et al.</i> 2009a)<br>deciduous and<br>evergreen oak decline and<br>increase in<br>Macedonia, Lerna and Attica<br>(Yazvenko in Zangger <i>et al.</i><br>1997; Jalms 1993; Konik<br>2011)<br>dry phase sediments in<br>Africa (Paape <i>et al.</i> 1984;<br>Paape 1986)<br>initiation of a depositional<br>gap at Kourou, Crete c. AD<br>350 (Besonen <i>et al.</i> 2011)<br>possible depositional gap in<br>Pattin marsh near Mezeris<br>(Jalms 2003)                                                                                                                       | initiation of depositional gap<br>in Anatolian lakes, lake levels<br>drop (Bonneau <i>et al.</i> 2011;<br>Jones <i>et al.</i> 2005)<br>AD 311–313 drought<br>(McCormick <i>et al.</i> 2012b)<br>AD 323 hot storms in<br>Naxos; Cappadocia (Cn. <i>Naxos</i><br>Dionys 16 (15)<br>papers in <i>Chon</i> attributed to a long<br>drought to the arrival of Saint<br>Perpetua, who lived c. 234–c.<br>AD 300 (Munoz Dancos <i>Pha</i><br>Perpetua 19)<br>AD 300 Bookman <i>et al.</i> 2001) or<br>400 (Migowski <i>et al.</i> 2006) Dead<br>Sea levels begin to rise sharply<br>dry up and/or cooling in<br>northern Anatolia c. AD 300–<br>450 (Halden <i>et al.</i> 2009)<br>SE Anatolia very dry c. AD<br>300–500 (Bonneau <i>et al.</i> 2005;<br>Halden <i>et al.</i> 2014) |

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| 5th C. AD<br>(AD 400–500)<br>Phase 3 | Central: cool & wet<br>up to AD 450 then<br>warmer and drier<br>SW Aegean: dry<br>with Elach flood?<br>East: variable, dry<br>Taurus but warmer<br>and wetter NW<br>Anatolia?                                              | summer rainfall peak c. AD 450<br>that it declines (Büntgen <i>et al.</i><br>2011a, 2011b)<br>low rises indicate moderate summer<br>temperatures beginning to tire after<br>AD 450 (Büntgen <i>et al.</i> 2011a;<br>2011b)                                                                                                                                                                                                                                                                                                                                                                                                                     | AD 408–410 famine in<br>Rome due to warfare<br>(McCormick <i>et al.</i> 2012b)<br>AD 418 drought and<br>famine in Italy AD 450;<br>severe famine in Rome<br>(McCormick <i>et al.</i> 2012b)<br>AD 468 food shortage<br>Rome? (McCormick <i>et al.</i><br>2012b)<br>AD 477 massive drought in<br>North Africa (McCormick <i>et al.</i><br>2012b)<br>AD 496 famine in Rome<br>and Italy (McCormick <i>et al.</i><br>2012b)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | incipient saproph? (Giese<br><i>et al.</i> 2005)<br>Elisos flood graves in<br>Athen (Pope <i>et al.</i> 1983;<br>Paepe 1986)<br>drier conditions in Arcadia<br>(Finck <i>et al.</i> 2014)<br>major flood in Arcadia AD<br>450 (Finck <i>et al.</i> 2014)<br>initiation of a depositional<br>gap at Lixares, Crete c. AD<br>500 (Besonen <i>et al.</i> 2011)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | c. AD 400 sudden drop in<br>mudfall (Bar-Sinkov and<br>Ayeles 2004; Oshim <i>et al.</i><br>2009)<br>Dead Sea levels rising<br>(McCormick <i>et al.</i> 2006) and<br>peak AD 500 (Boschman <i>et al.</i><br>2001)<br>4 rise/flood and 1 or 2<br>droughts from AD 375–475<br>(McCormick <i>et al.</i> 2012b)<br>SE Anatolia very dry c. AD<br>500–560 (Jones <i>et al.</i> 2006;<br>Haldon <i>et al.</i> 2013)<br>NW Anatolia warmer/wetter<br>after AD 450 (Fleithmann <i>et al.</i><br>2007)<br>AD 466 Thunian and Isotetes<br>in Syria and Mesopotamia<br>(McCormick <i>et al.</i> 2012b)<br>AD 471 great famine in Syria<br>(McCormick <i>et al.</i> 2012b) |
| 6th C. AD<br>(AD 500–600)<br>Phase 3 | Unstable<br>Central: inconsistent<br>data, cold and dry<br>central Europe, but<br>Italy was wetter<br>by end of the<br>century<br>SW Aegean: not<br>enough data<br>East: initially dry<br>and hot, but cooling<br>very wet | summer rainfall of lowest c. AD 600<br>(Büntgen <i>et al.</i> 2011a, 2011b)<br>AD 536 dust-veil event? (years)<br>without summers? (Aripa 2005;<br>Larsen <i>et al.</i> 2008; Büntgen <i>et al.</i><br>2011a, 2011b)<br>cooling event that peaked AD 540<br>(Zielinski <i>et al.</i> 1994; Büntgen <i>et al.</i><br>2011a)<br>alpine glacial advance c. AD<br>550–750 (Holzhauser <i>et al.</i> 2005)<br>by end of 6th cent. rains and<br>temperatures increasing in Gaul<br>(Büntgen <i>et al.</i> 2011a)<br>early summer rain in Gaul (Büntgen<br><i>et al.</i> 2011a)<br>severe floods in Italy and Gaul<br>(McCormick <i>et al.</i> 2012b) | AD 536 dust-veil event<br>‘years’ without summers?<br>(Aripa 2005; Larsen <i>et al.</i> 2008;<br>Büntgen <i>et al.</i> 2011a;<br>2011b)<br>AD 536–537 drought<br>accompanied by cold and<br>dark in 536 (McCormick <i>et al.</i><br>2012b)<br>cooling event that peaked AD<br>540 (Zielinski <i>et al.</i> 1994)<br>by end of 6th cent. rains and<br>temperatures increasing in<br>Italy (McCormick <i>et al.</i><br>2012b)<br>early summer rain in Italy<br>and Gaul (McCormick <i>et al.</i><br>2012b)<br>severe floods in Italy and<br>Gaul (McCormick <i>et al.</i><br>2012b)<br>AD 568 early winter with<br>heavy snow (McCormick<br><i>et al.</i> 2012b)<br>possible volcanic winters<br>c. AD 639, 643, 690?<br>(Zielinski <i>et al.</i> 1994;<br>McCormick <i>et al.</i> 2012a,<br>table 1)<br>many texts referring to cold<br>and snow from AD 600–724<br>N Italy, Rome (McCormick<br><i>et al.</i> 2012b) | only one event could be<br>assigned to this century:<br>Arcadia was dryish (Finck<br><i>et al.</i> 2014)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | incipient saproph? (Selimov<br><i>et al.</i> 2001)<br>14 droughts and hot events<br>between AD 500–595 vs 8<br>floods/excessive rain events<br>(McCormick <i>et al.</i> 2012b)<br>Constraining severe<br>summer drought c. AD 520<br>(McCormick <i>et al.</i> 2012b)<br>Polestine drought AD 522–535<br>(McCormick <i>et al.</i> 2012b)<br>Dead Sea levels peak AD 600<br>(Migowski <i>et al.</i> 2005) or are<br>dropping (Boschman <i>et al.</i> 2004)<br>SE and Central Anatolia<br>draughtic increase in moisture<br>c. AD 560–650 (Jones <i>et al.</i><br>2005; Kuzumoglu <i>et al.</i> 2011;<br>Haldon <i>et al.</i> 2013)                              |
| 7th C. AD<br>(AD 600–700)<br>Phase 4 | Central: cold and<br>wet<br>SW Aegean: unstable<br>cool and/or wet,<br>much erosion<br>East: initially wet<br>becoming suddenly<br>drier near the end of<br>the century                                                    | possible volcanic winters c. AD<br>639, 643, 690? (Zielinski <i>et al.</i><br>1994; McCormick <i>et al.</i> 2012a,<br>table 1)<br>summer rain sharply rises from AD<br>650–750 (Büntgen <i>et al.</i> 2011a)<br>rain and temperatures increasing<br>(Büntgen <i>et al.</i> 2011a)<br>many texts referring to cold and<br>snow from AD 600–724 Ireland<br>(McCormick <i>et al.</i> 2012b)                                                                                                                                                                                                                                                       | possible volcanic winters<br>c. AD 639, 643, 690?<br>(Zielinski <i>et al.</i> 1994;<br>McCormick <i>et al.</i> 2012a,<br>table 1)<br>many texts referring to cold<br>and snow from AD 600–724<br>N Italy, Rome (McCormick<br><i>et al.</i> 2012b)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | AD 711 epidemic, drought<br>and food shortages in<br>Crete (McCormick <i>et al.</i> 2012b)<br>isotopes and microfossils<br>indicate unstable conditions<br>between c. AD 600 and<br>1000. Locally evaporation<br>is low (Realing <i>et al.</i> 2002;<br>2009; Marino <i>et al.</i> 2009a)<br>drying conditions in<br>Arcadia, under is AD 650,<br>then becoming rapidly<br>‘wetter’ (Finck <i>et al.</i> 2014)<br>drought sensitive trees<br>increase in Africa (Kouli<br>2011) Lerna (Isaks 1993)<br>and Crete (Alberden and<br>Hall 1999; Alberden 2000)<br>trees declined at Tylos<br>(Yoncosko in Zangger <i>et al.</i><br>1997)<br>olive pollen declined<br>everywhere except Africa<br>(Kouli 2011)<br>slope erosion in most areas<br>(Grover and Zachman 2001;<br>van Andel <i>et al.</i> 1990;<br>Mandy 2000; Pope <i>et al.</i><br>2003; Pope 2004; Macklin<br><i>et al.</i> 2010; Unkel <i>et al.</i><br>2014) | rapid destructive high stand<br>Lake Kinneret (Hann 2000;<br>2005; Linder 2007), then lake<br>levels drop (Gass 2003)<br>Dead Sea level high then<br>plummeting in late 7th and 8th<br>cent. AD (Boschman <i>et al.</i><br>2004; Migowski <i>et al.</i> 2006)<br>texts referring to cold, snow<br>and ice frosts from AD<br>600–724 Mesopotamia, Syria,<br>Constantinople (McCormick<br><i>et al.</i> 2012b)<br>SE and Central Anatolia moist<br>conditions continue but slightly<br>drier after AD 650 (Jones <i>et al.</i><br>2005; Kuzumoglu <i>et al.</i> 2011;<br>Haldon <i>et al.</i> 2013)                                                             |
| 8th C. AD<br>(AD 700–800)<br>Phase 4 | Unstable<br>Central: generally<br>warming w moisture<br>but punctuated by<br>severe winters<br>SW Aegean: Cool/<br>wet?<br>East: Very dry                                                                                  | alpine glaciers retreat until c. AD<br>750 (Jy-Yeh <i>et al.</i> 2009)<br>possible volcanic winters c. AD<br>702, 754, 763/64 (Zielinski <i>et al.</i><br>1994; McCormick <i>et al.</i> 2012a,<br>table 1; McCormick <i>et al.</i> 2012b)<br>rain and temperatures increase and<br>stabilize after c. AD 750 (Büntgen<br><i>et al.</i> 2011a; pollen, Lüt <i>et al.</i> 2009)                                                                                                                                                                                                                                                                  | possible volcanic winters<br>c. AD 702, 754, 763/64<br>(Zielinski <i>et al.</i> 1994;<br>McCormick <i>et al.</i> 2012a,<br>table 1; McCormick <i>et al.</i><br>2012b)<br>AD 716–717, 761, 761<br>floods (McCormick <i>et al.</i><br>2012b)<br>AD 763 very harsh winter<br>(McCormick <i>et al.</i> 2012b)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | symptoma is low (Robling<br><i>et al.</i> 2002, 2009; Marino<br><i>et al.</i> 2009a)<br>becoming rapidly ‘wetter’ in<br>Arcadia (Finck <i>et al.</i> 2014)<br>and Crete (Giese<br><i>et al.</i> 2005)<br>Aoi Gonis Crete pollen of<br>deciduous trees increases<br>slightly (Alberden and Hall<br>1999; Alberden 2000)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Dead Sea level plummeting<br>in late 7th and 8th cent.<br>AD (Boschman <i>et al.</i> 2004;<br>Migowski <i>et al.</i> 2006)<br>dry conditions at Lake<br>Kinneret and levels low,<br>especially after AD 750<br>(Dobrowski <i>et al.</i> 2003; Issar<br>2003)<br>Nile floods began high but<br>finished low (Easson 1981)<br>SE Anatolia sharp rise in<br>aridity c. AD 750–800 (Jones<br><i>et al.</i> 2006; Haldon <i>et al.</i> 2014)                                                                                                                                                                                                                       |

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| 9th cent. AD<br>(AD 800–900)   | Central: warm and wet<br>SW Aegean: wet<br>East: dry but slow increase in moisture                                             | rain and temperatures increased to Roman levels (Büntgen <i>et al.</i> 2011a)<br>De <i>Geographie von Isonia</i> by Agabard of Lyon (c. AD 729–840) should be studied for phenological data. | No data from well-dated proxies | Asi Gonia Ciste pollen of deciduous trees increase slightly (Alfonsen and Hall 1999; Alfonsen 2000)<br>fine-grained alluvial deposits Anapoditis river, Crete c. AD 870–900 (Machiki <i>et al.</i> 2010)                                                                                         | in the 9th cent. AD, Dead Sea level begins to rise gradually, but remains low until c. AD 1200 (Bacalanca <i>et al.</i> 2004; Migojewski <i>et al.</i> 2006)<br>Nile floods are unstable, fluctuating between one or highs and minor lows 4 times in a century (Hassan 1981)<br>SE Anatolia relatively and until c. AD 1000 (Jones <i>et al.</i> 2005; Halócsy <i>et al.</i> 2014) |
| 10th cent. AD<br>(AD 900–1000) | Central: warm<br>SW Aegean: drier<br>East: Levant dry but slow increase in moisture. Anatolia: moisture increases more quickly | ‘unfavorable for glaciers’ (Joy-Ghee <i>et al.</i> 2009)                                                                                                                                     | No data from well-dated proxies | warm water microfossils and evaporation increase (Schmidt <i>et al.</i> 2002, 2009; Marino <i>et al.</i> 2009a)<br>drying in Arcadia (Finné <i>et al.</i> 2011)<br>no impact on hill sagebrush<br>Asi Gonia Ciste tree pollen decline sharply c. AD 1000 (Alfonsen and Hall 1999; Alfonsen 2000) | 10th century AD drought in Mesopotamia (Stern 1992, 45)<br>Dead Sea level rises gradually, but remains low until c. AD 1200 (Bacalanca <i>et al.</i> 2004; Migojewski <i>et al.</i> 2006)<br>Nile floods are very low from AD 950–1070 (Hassan 1981)<br>SE Anatolia increasing moisture until c. AD 1000 (Jones <i>et al.</i> 2005; Halócsy <i>et al.</i> 2014)                    |

In west and central Crete, archaeological survey data indicate a decline in upland settlement but a significant increase in lowland and coastal settlement: the Akrotiri near Chania (Raab 2001, 156); Sphakia (Nixon *et al.* 1994; Moody *et al.* 1998); and western Mesara (Watrous and Hadzi-Vallianou 2004). Settlement patterns in parts of east Crete were different. The Vrokastro Survey, for example, found only a few early Roman sites (Hayden 2005, 200). This pattern is similar to that documented for the Greek mainland and the islands of Melos and Keos, where there was a broad decline in rural settlement during late-Hellenistic and early Roman times (Alcock 1993, 33–85).

## Phase 2

The climate ‘instability’ of this phase is contemporary with the striking southwest Aegean aridity event that began in the late 2nd to 3rd century AD and is visible in pollen, stable isotope, and geomorphological records. Some of the southwest Aegean proxies show an aridity peak in the 4th century AD. Arcadia in the central Peloponnese was, again, different, with isotopes indicating very ‘wet’ and average conditions.

On Crete, many complex water catchment and distribution systems were constructed between the 2nd and 6th centuries AD, suggesting a focus on water conservation. There was also a decline in new construction in the late-2nd and 3rd centuries, signifying an economic downturn (Harrison 1998, 131). Other indicators that the economy was stressed include a noticeable gap in 2nd–3rd century AD ‘imported’ wares in Sphakia (Francis in prep.) and a lack of continuity in settlement. For example, in the western Mesara, only 15 out of the 37 early Roman sites continued into the 3rd century, *i.e.* about 40% (Watrous and Hadzi-Vallianou 2004, 357). Similar discontinuities in settlement are seen in Sphakia (Nixon *et al.* 1994; Francis *et al.* 2000, 429) and the Akrotiri near Chania (Raab 2001, 156). Vrokastro,



however, shows strong continuity between these periods (Hayden 2005, 204).

Low site numbers continued across most of the Greek mainland up to the 4th century AD, with some exceptions: Laconia, Methana, and the Five-Rivers area of Messenia (Alcock 1993, 48). Site continuity between the early and late Roman periods on the mainland, c. 38%, was about the same as on Crete. On the islands of Melos and Keos, however, continuity was substantially lower, c. 18% (Alcock 1993, 56–9, table 4)

The 4th century AD climate ‘recovery’ documented in central Europe (McCormick *et al.* 2012a, 186–8) is not generally visible in southwest Aegean climate proxies. It may be, however, that the coarse chronology of the Aegean data masks this short-lived recovery, which is mainly documented in Europe by finely dated tree-ring and varve records. A possible exception may be the isotope record from Arcadia (Finné *et al.* 2014, 221, fig. 7), where average to ‘wetter’ conditions are indicated for the 4th century.

It is possible too that the increase in settlement numbers across the southwest Aegean beginning in the 4th century could have been partly a response to improvements in the climate. In Crete, the Lasithi Plain “was as populous during the 4th through 7th centuries after Christ as at any time during antiquity” (Watrous 1982, 24). Sphakia (Nixon *et al.* 1994), Vrokastro (Hayden 2005, 204), and the Akrotiri near Chania (Raab 2001, 156) were also well settled between the 4th and 7th centuries AD. On the Greek mainland and Melos, late Roman site numbers increased markedly during the 4th–5th centuries AD (Alcock 1993, 33–49, 41, fig. 11). Curiously, the Mesara in south Crete is an exception: settlement numbers dropped steadily from the 4th–10th centuries and included the abandonment of the important Roman coastal towns of Lebena and Lasaia (Tsougarakis and Angelomati-Tsougaraki 2004, 362).

### **Phase 3**

Phase 3 climate ‘instability’ in the 5th and 6th centuries is recorded in some southwest Aegean climate proxies, such as the desiccation of Cretan lakes between the 4th and 6th centuries AD and possibly near Megara in Attica. Given the coarse chronologies of the data, it is not clear if this is a continuation of the aridity begun in the 2nd and 3rd centuries or an independent event.

Settlement density, however, seemed unaffected; site numbers in

almost all archaeological surveys continued to rise. The southern Argolid, for example, noted a settlement peak in the 5th to 6th centuries AD (van Andel and Runnels 1986, 113). In Crete, everywhere but the Mesara continued to be well settled until the 7th century (see above). Some regions, such as Vrokastro, were well settled into the 8th century (Hayden 2005, 204, 214).

#### **Phase 4**

Climate ‘recovery’ in the southwest Aegean during 7th and 8th centuries is indicated by less evaporative conditions in a number of proxies. Once again, however, Arcadia in the central Peloponnese shows the opposite trend; isotopes indicate a strong drying out of the environment, especially in the 7th century.

Settlement numbers decreased across the southwest Aegean during the 7th–9th centuries. Archaeological survey in Boeotia (Bintliff 1996, 3–4), the southern Argolid (van Andel and Runnels 1986, 121–2), Messenia (Topping 1972 64–5; Gerstel 1998, 212), Melos (Sanders 1996, 164–5, figs. 3, 4); the Akrotiri northeast of Chania (Raab 2001); Sphakia (Nixon *et al.* 1994; 2009), and the western Mesara (Tsougarakis and Angelomati-Tsougaraki 2004, 362) all show marked reductions in site numbers.

#### **Conclusions**

Although coarsely dated, climate proxies from the southwest Aegean largely correlate with the four Roman climate phases defined by McCormick and his colleagues. Within this macro-pattern, however, it seems likely that the different scales, accuracies, and resolutions of the data considered here could mask significant local and regional differences between parts of the southwest Aegean and between the southwest Aegean and other parts of the Mediterranean (Roberts *et al.* 2012). This is suggested by the differences between the isotope records in the central Peloponnese and those from the Aegean Sea and Crete. Such subtleties are important and can only be better understood by developing more local proxies with refined chronologies. Given the environmental constraints of the southwest Aegean and its rich karst topography, speleothem studies are a promising way forward.

Relating the reconstructed climate changes to the human history of the southwest Aegean has been more elusive. For the most part, the influence of external socio-political forces on the region in the form of conquest and war seem to overwhelm any adaptations or reactions to

climate change, whether that change was for the better or the worse. A possible exception may have been the increase in aridity between the 2nd and 5th centuries AD. The shift in settlement patterns documented between the early and late-Roman periods across the region, which included increased activity in some but not all upland areas, may well have been a response to a declining water supply.

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## Apiculture in Roman Crete

*Jane E. Francis*

### Introduction

The exploration of post-Minoan Crete has brought new understanding to the later ancient phases of the island. Survey projects, in particular, have elucidated the manner in which the Cretans managed and exploited their landscapes for both subsistence and trade. By the Roman imperial period, various systems for the production of agricultural and marine resources seem to have been in place, although the precise manner in which many of these functioned is still unknown (Harrison 1991), and written historical evidence like tax or trade documents is non-existent. Excavations of large-scale Roman cities, like Eleutherna and Gortyn, and of smaller villa or farm sites, like Kato Merita near Hierapytna or even the so-called Villa Dionysos at Knossos, as well as archaeological surveys of sometimes vast expanses of the Cretan landscape, have provided a complex picture of site types and functions that is not yet fully understood (Francis 2012), but a constant feature of all available evidence is the reliance of the Cretans upon their landscape (Chaniotis 1999).

Evidence for the manner in which the Cretans used their landscape in the Roman period can be divided into three broad classes. The first of these consists of manufacturing centres, preserved through architectural remains like pottery kilns (Empereur *et al.* 1989, figs. 4–7), olive oil presses (Watrous *et al.* 2004, 530, sites 25, 26), or fish tanks (Leatham and Hood 1958–1959; Davaras 1974; Francis 2010a). In some cases, these installations are inferred through the remains of associated containers, like ceramic wasters (Homann-Wedeking 1950; Marangou-Lerat 1995, 44, figs 8e–f). The second category comprises ancient written documentation, such as inscriptions and literary references, but descriptions of production methods and locations, and, more commonly, of the qualities of specific products, are also informative. Such texts can sometimes support the archaeological evidence as in, for example, the case of Cretan wine, whose citations in ancient texts have been correlated to the finds of Cretan wine

amphorae around the Roman world (Marangou-Lerat 1995), which is thus seen to support the inferred magnitude and scope of the Cretan wine industry. The last type of evidence that identifies Cretan agricultural and marine exploitation is the pottery and other objects that were integral to production, harvesting or collection, processing, and even the use of landscape resources. Ceramic shapes like transport amphorae, storage containers, strainers, mortaria, and loomweights would have been supplemented by an array of implements like vats, baskets, barrels, grinders, cutters, bags, nets, and ropes in other materials, and the faunal remains of animals and fish (Mylona 2003) and botanical evidence like seeds and pips (Shay and Shay 2004), if recovered, help to reconstruct the lifestyle and diet of the Cretans.

One of the most important types of agricultural exploitation on Crete was beekeeping, and the wealth of evidence for the production, use, and possible trade in Cretan wax and honey indicates that apiculture played a significant role in the life of Roman Crete. Indeed, Greece, aside from perhaps Egypt, provides the bulk of evidence for this enterprise, due in large part to the use of ceramic beehives, which have been preserved. Ceramic hives attest to apiculture in 3rd–2nd century BC pre-Roman Spain (Bonet Rosado and Mata Parreño 1997), sites in western Asia Minor are revealing the use of ceramic hives (Rotroff 2006, 126–7, map 2), and examples have also been identified from Roman Croatia (K. Jelinčić, pers. comm.). A beehive rim has also been found at Sicilian Naxos and represents the only evidence for apiculture with ceramic hives in ancient Italy (Blackman *et al.* 2010, 153–5). Ancient literary accounts praise honey and wax from different Mediterranean regions, such as Attica, Cyprus, Hybla on Sicily, and Spain, but there is little physical archaeological evidence for large-scale beekeeping in the Greek and Roman periods except in Greece. Excavations and especially survey projects in various regions and on many Greek islands have identified tens of thousands of beehive fragments, starting with the studies on the hives from the Vari House in Attica in the 1970s (Jones *et al.* 1973), where gas chromatography confirmed the existence of beeswax inside large tubular containers of uncertain function. The interiors of these vessels are commonly scored, a feature that has become their identifying hallmark, especially for body sherds. Studies of assemblages from different parts of Greece have recognized some regional preferences in base and rim shapes, scoring patterns, and overall dimensions, but ceramic beehives, even in fragments, are now a highly distinctive part of ceramic collections. Although soundly derided by ancient Italian

authors (Francis 2012), ceramic hives were but one type of beehive available to ancient beekeepers and it is likely that they were accompanied by hives in other materials, as described by Roman agricultural writers like Columella and Varro (see below); hives in wicker, from logs, of wood, and of reed, alongside ceramic hives, indicate the scale and importance of apiculture in antiquity.

The evidence for ancient beekeeping on Crete is based substantially on the remains of such ceramic beehives; hives made of other materials, if they were used on the island, are not preserved at all and are therefore outside the boundaries of this study, which can only focus on extant remains. The number of these ceramic hives is substantial. Current scholarship has revealed that much of the island's apiculture occurred in central and west Crete; beehives are certainly found in the east, but in much smaller numbers (Vogeikoff-Brogan 2012, 88). In central and west Crete, few excavations or survey projects do not preserve beehives, which occur also as stray finds without associated settlements or secure contexts. These containers are so recognizable, however, that the presence of apiculture is easily documented. Questions arise when the extensive apicultural industry of central and west Crete is placed in the broader context of Cretan landscape use and its contribution to the economy of the island and of the Roman world. It is unknown, for instance, whether honey and wax was produced only for the subsistence of the family that owned and maintained the hives, or whether large clusters of hives were owned by groups, perhaps in the manner of a collective enterprise. Amounts of honey consumed *per capita* in the Roman period are also unknown, and while one can make vague estimates about the quantity of honey produced by the number of hives found in a specific area, there are too many uncertainties about consumption patterns, ownership of hives, and family networks that might have shared resources. There are vagaries as well in contemporary details about the health of the bees, swam size, hive size, and their output, which may have varied from year to year. Extensive apiculture can thus be documented in parts of Crete, but assigning the results of this enterprise to local use versus export, whether to other parts of Crete or beyond, is broadly speculative.

### **The form and function of ancient beehives**

A beehive is essentially a large ceramic container with an open mouth, but comparative morphological studies have determined that several

types were in use at the same time in antiquity. Current evidence suggests regional preferences, but some areas preserve several types of contemporary date. Two types have been identified, the horizontal and vertical, with the horizontal by far the more common across Greece. The horizontal beehive is a long tubular container with at least one open mouth. Some examples have one solid end that is either flat (Rotroff 2006, 124–5) or curved (Lüdorf 1998–1999, e.g., 142, fig. 22, no. B17). The other end is left open and closed in various ways, including plugs or discs of wood or bark (Crane 1999, 201–2). Ceramic discs were used in Attica (Lüdorf 1998–1999, 163–9, figs 43–9; Rotroff 2006, 129), some of which may have been re-used lids of large vessels like pithoi. Complete examples of beehives show a tapering from the wider open mouth to the other end, which is usually solid. These horizontal beehives were laid on their sides and stabilized by walls, rocks, buildings, or trees, and could be stacked, as is illustrated in Egyptian paintings that show beehives of very similar shape positioned in this manner (Crane 1983, 38, fig. 20). The bees' flight hole is sometimes preserved in the solid bottoms of some hives, as in examples from the Athenian Agora (Rotroff 2006, 129), but these holes were probably more commonly built into the closure or lids of the hives, where a small section could be left open. Once these hives were in place, bees attached their honeycombs to the interior roof from where they hung down into the interior. Modern ceramic hives illustrate the appearance of such an arrangement (Jones 1976, 85, with figure).

The second beehive form is a shorter, vat-like container. Its base is always solid and flat, and the rim broad and flaring. Some examples, like the famous Orestada beehive from Isthmia, preserve horizontal handles (Kardara 1961). The largest number of this type so far has been found at Isthmia (Anderson-Stojanović and Jones 2002), but they occur sporadically elsewhere in small numbers; it is possible that they have been misidentified as other utilitarian shapes like tubs, vats, or large basins. These beehives usually have a flight hole cut into the lower wall (Anderson-Stojanović and Jones 2002, 355, no. 7, fig. 8). Post-antique ceramic upright beehives show the manner in which these hives may have functioned: laths or sticks placed across the open mouth serve as the attachment point for the honeycombs, which hang directly down into the container. The open mouth was then closed with a ceramic lid, or a flat rock was set on top to keep out predators (Anderson-Stojanović and Jones 2002, 371, fig. 17).

A consistent feature of identified Greek and Roman beehives is their interior scoring, which is thought by modern scholars to have supplied the bees with a roughened surface from which to attach their honeycombs (Jones *et al.* 1973, 401). The existence of the scoring on only one section of the hive interior, presumably set so it would be the top surface in the horizontal type, lends further support to this argument, as it would not be required in other parts of the hive, even though some examples show scoring all over the interior (Yangaki 2005, 450, fig. 61a). Fashioned while the clay was still wet during construction, sharp instruments or combs were dragged across the interior surface of the hive to produce a variety of patterns, from dense, deep corrugated-looking grooves in one direction to criss-cross patterns made with the same comb whose teeth can be consistently counted, to individual lines of varying depth, width, and spacing in a more haphazard manner. Post-antique ceramic beehives, which continue to be used in both shapes into modern times, do not contain this scoring, and its presence or absence may provide a simplistic way of broadly dating beehives found without archaeological or chronological context. On the other hand, the date at which the scoring went out of fashion is unknown, whether at the hand of the potter alone or by recommendation of a beekeeper. It can be posited that this scoring originated with the development of ceramic hives, perhaps in an attempt to imitate the roughness observed in natural hives or areas where bees constructed their honeycombs; a hollow log serves as an excellent parallel to the horizontal hive type, with the scoring replicating the coarse striations of the log's interior. Further support to this argument may be found in Roman authors' references to logs making excellent beehives (Columella 9.6.1; Varro 3.16.15; Palladius 1.38; Francis 2012, 147, n. 14).

While such scoring makes functional sense for beehives laid horizontally, at least in principle, it cannot be explained on the sides of the upright hives, where it also regularly occurs. This feature would be completely unnecessary to the function of the hive if the honeycombs hung down from the mouth. It may be that scoring was well ingrained into the habits of the potter who created such vessels, regardless of the type, and, as the scoring was not detrimental to the use of the hive, it continued to be included. On the other hand, the scoring represents an extra phase in the creation of an otherwise complete beehive and thus extra effort and perhaps even cost, so it may indeed have had a functional role. The existence of scoring on the walls of upright hives may be elucidated by Rotroff's study of the

Agora beehives, where she suggests that the so-called upright variety may also have been laid horizontally and that their flat bases facilitated an upright position when they were not in use or in storage (Rotroff 2006, 124–31). This interpretation accounts for both the disappearance of the interior scoring and the upright positioning of the tub-variety of beehive, but would be difficult to prove archaeologically. Only one of the Agora hives seems to support this interpretation: it has a solid base pierced with a flight hole, which would have been inaccessible to the bees if it were laid flat on the ground (Rotroff 2006, 129–30). Residue analysis confirming traces of beeswax in the scoring of so-called vertical hives would also help solve this problem.

The beehives themselves are not the only part of apiculture equipment used in antiquity. Alongside many hives and their fragments are short ceramic sleeves or rings also with interior scoring. These are of comparable diameter to the open mouths of the hives and are short enough that both finished edges are often preserved, thus separating them from beehive fragments. On Crete, at least, these rings are frequently thicker walled than beehives, and thicknesses of over 1 cm are not uncommon. These rings are thought to have been added to the mouths of the hives, although the point of this exercise remains elusive. They resemble modern ekes, which are used as spacers, for the placement of food, or for ease of manipulation while moving hives, but these interpretations do not quite suit the ancient rings, mostly because of their scoring; one either believes that the scoring is an inconsequential part of ancient apiculture, or one must explain it. The ancient ceramic rings may have been used to increase the length and thus the size of the hive: larger hives and larger swarm mean more honey and wax. These rings appear alongside the larger hives of Attica as well as the smaller ones from Crete, and it is uncertain why the potter could not have fashioned a larger hive from the outset, as beekeepers were presumably astute enough to be able to predict the yield of their hives. Another interpretation suggests that they were employed seasonally, perhaps when a particular plant was in flower and thus enabled a smaller yield to be removed (Rotroff 2006, 128). They might allow individual or small groups of honeycombs to be removed without disturbing the remainder inside the hive proper. The rings may also allow the beekeeper to smoke only the very outer ring of bees and thus leave the remaining swarm deeper inside the hive unaffected. In fact, Columella (9.15.8) states that the beekeeper should not remove all the combs at once, and the

extension rings would certainly facilitate piecemeal removal of them. Any or all of these interpretations do not affect the hive itself, its mobility, or use. The rings would have been held on by propolis or beeswax, perhaps even initially stabilized with ropes wound around the frequently out-turned rims.

Another problem with the interpretation of ancient beekeeping equipment is the lack of a secure chronology for the forms of the hives. Unlike almost every other class of ceramic shapes, beehives do not seem to change; their morphological pace is 'glacial' (Rotroff 2006, 126). These containers also have a limited number of places where such changes could occur: many have only a flat base or a slightly domed base, while others have no base. Rim forms are unadventurous, being usually out-curved to some degree. Handles are mostly absent, especially in the more common horizontal type.

It is assumed that the shapes of beehives were developed and seen to work by both potters and beekeepers and there was thus no need to bend to fashion or foreign influence. Few other cultures used ceramic hives, and none would thus have been imported to provide inspiration. Only a small a segment of the population would have used these containers, and their usefulness did not require widespread updating. Their functions do not overlap with other ceramic shapes that may have exerted shape influence upon them. The potters who created beehives also seem to have been fairly unconcerned with their appearance, as they continued to make the same type throughout the centuries. The beehives worked: the bees used them, the yield from them was satisfactory, the vessels were transportable with a degree of ease in their established form, the beekeeper could reach inside to remove the honeycombs, and no further modifications were required. Yet not all beehives are alike, but despite some efforts to establish a typology of their forms (Lüdorf 1998–1999) among the Attic examples, their differences are more likely, in a broad sense, to be regional rather than chronological. To be sure, some morphological features may be tied to date when retrieved from stratified contexts, as Rotroff's assertion that flat-based horizontal beehives are Hellenistic (Rotroff 2006, 126). While a stratified context can provide a date for a beehive, there is no guarantee that the form exhibited by the hive represents that particular time and was not, instead, a form developed significantly before and still in production. Examples from Crete are instructive for the sometimes-significant chronological span between findspot and form: the rim form of an extension ring from the



Unexplored Mansion at Knossos dating to the Augustan period (Sackett 1992, pl. 134, A2,96) is comparable in shape to the rim of an extension ring found in a late-antique context at Aghia Galini, on the south coast of Crete (Vogt 1991–1993, 70–1, fig. 17.2).

The issue of dating beehives is further complicated by the extensive finds from survey projects across Greece; on Crete, the Khania Archaeological Research Project on the Akrotiri peninsula and the Sphakia survey have together identified nearly one thousand fragments; off Crete, the Kea survey has recovered comparable numbers (Cherry *et al.* 1991, 261–3). These hives may be tentatively dated by associated pottery or, when present, architectural remains or other artefacts, but it cannot be known whether beekeeping was contemporary with settlement or the main phase of occupation. There is significant evidence in Attica for the use of disused towers and military structures as pre-existing shelter for beehives (e.g., McCredie 1966, 46, no. 5), and similar installations may have occurred on Crete with abandoned houses and field walls; the remains of a tower at Bardhasterna, in Sphakia, contained beehive fragments (<http://sphakia.classics.ox.ac.uk/>, site 3.05; see also [Appendix 7.1](#)). On the other hand, the Vari House in Attica clearly indicates how beekeeping can be integrated into a domestic settlement, particularly in a rural context, and pottery found with beehives may well be contemporary and thus useful for dating the hives (Jones *et al.* 1973). The Hellenistic beehives from the Agora of Athens may have been brought into the city for access during the Peloponnesian War (Rotroff 2002; 2006, 131), although it is sometimes difficult to know whether beehives found in a domestic or urban context were in use there or simply in storage.

A further complication for the chronological interpretation of beehives is the possibility that they were regarded as inheritance objects to be passed down through generations of a family group, as they are today; other classes of large ceramic containers, like the storage bins of the Athenian Agora, are similarly interpreted (Rotroff 2006, 93). Crete today displays many instances of ceramic beehives used as chimney spouts (Elounda, Episkopi/Hierapytna), flower pots (Mochlos), and broom containers (modern Ierapetra) that were inherited from grandparents or earlier relatives; they seem to have been common in girls' dowries (pers. comm. with modern ceramic beehive owners on Crete). This means that a beehive created in the early 20th century may still be used today, a century later, if even in

another context. The archaeological record does not always make it possible to reconstruct the precise location and thus function of a hive, as many found today may have been in storage, perhaps awaiting a new generation of beekeepers.

### **Beekeeping in Roman Crete**

The origins of apiculture with manmade beehives on Crete are disputed and research is focusing on the possible existence of ceramic beehives from the Minoan period and early Iron Age (Davaras 1986; Melas 1999; Harissis and Harissis 2009; D'Agata and De Angelis 2014). The functional or morphological connection of these earlier beehives with the Greek and Roman examples is still unknown, as is the reason for the centuries-long gap between the decline of the earlier apicultural traditions and the rise of the beehive types that form the basis for this study.

The earliest chronologically secure ceramic beehives from Greece date to the 5th century BC (Lüdorf 1998–1999, 55), but the type seems to appear slightly later in Crete: the earliest documented example comes from Knossos, from a mid to late 2nd century BC collection of pottery excavated from a cistern next to a kiln (Homann-Wedeking 1950). This material consists of extension rings with interior scoring, originally identified as kiln props (Homann-Wedeking 1950, 185, fig. 25, 8b) and dated according to associated diagnostic pottery. A rare ceramic beehive lid from Gortyn is dated at its earliest to the end of the 4th century BC, but this seems to be due to shape comparisons from Attica rather than stratified evidence (Rendini 1988, 247, no. 236). The same can be said for some broadly dated 'Classical/early Hellenistic' beehives from the Kommos survey area; the dense scoring on this example may even indicate a Roman date (Callaghan 1995–1996, 388, K33-1, 2, pl. 7.39C). Hellenistic beehives are also reported from Eleutherna (Yangaki 2005, 162).

These Greek-period beekeeping finds are relatively uncommon and they tend to be late Hellenistic, as at Knossos (Eiring 2001, 129, fig. 3.18). The bulk of Cretan evidence for apiculture dates to the Roman and later periods, which suggests a rather slower adoption of the ceramic beehive than is demonstrated in other parts of the Greek world; it may be that Cretans were using hives made of materials that have not survived, such as wood or wicker. The Cretan production of honey in the Hellenistic period, at the latest, is undeniable, even if we cannot identify the hive types that were used. By the imperial period,

however, apiculture with ceramic hives seems to have been flourishing on Crete, at least in the west and central parts of the island. Because of the difficulties in dating beehive fragments, especially those finds from surveys, it is possible that some of the material discussed here is Hellenistic, but sufficient numbers of beehives from Roman through early Byzantine excavated contexts indicate a strong apiculture tradition with ceramic hives in this period. It is difficult to reconstruct the next phase in Cretan beekeeping, as no excavated sites of the postantique periods, such as later Byzantine and Venetian, seem to preserve ceramic hives, or at least none have been published; the next appearance of these hives is in the Ottoman era, when they appear without interior scoring, and they continue well into the 20th century (Crane 1999, 202).

The well-dated Roman/early Byzantine ceramic beehives from Crete come from excavated sites whose exploration has been subject to patterns of modern academic inquiry. These finds are thus clustered at sites like Knossos and Gortyn, with some of the material published also from Eleutherna (Vogt 2000, 95, figs 47–8; Yangaki 2005, 162–3), although other examples undoubtedly remain unpublished. A scored tub-like vessel from the excavations at the Byzantine basilica at Panormo (Kalokyris 1955, 325, 3b, pl. 123b) is now also recognized as a beehive (Yangaki 2005, 163). Smaller excavations at Aghia Galini have yielded late-antique examples (Vogt 1991–1993), and the author has come across unpublished beehives and extension rings from excavations at Chania, Phalasarna, and Aptera, and many more examples undoubtedly exist. Examples from survey projects number in the many hundreds, at least as published, and beekeeping is especially well attested on the Akrotiri Peninsula and in Sphakia, with lesser numbers identified in the Vrokastro (seen by author), Moni Odigitria (Francis 2010b, 42–4), and the Mesara survey areas (Watrous *et al.* 2004, 530, sites 25, 26). The Gournia Survey Project also identified beehives, but the numbers there are very small (Gallimore 2011, 153; Vogeikoff-Brogan 2012, 88).

The production sites of these beehives are unknown, but the majority of them are presumed to be of Cretan manufacture. Macroscopic fabric analysis on about 400 of the Sphakia fragments revealed only a handful that could not derive from Cretan clays (see below), even if their precise origins on the island cannot be located (Francis 2006, 383–4). Research on the beekeeping material from Gortyn revealed that they are made out of at least three local clays

(e.g., Martin 1997, 340, nos. 406, 409, 411), while a small number are thought to have been imported, from unknown source(s) (Yangaki, this volume). Some of the beehives from Knossos (Sackett 1992, 173, 225, T1,27) and Eleutherna are also thought to be made from local clays (Vogt 2000, 95, 210; Yangaki 2005, 163; Yangaki, this volume).

The local or at least Cretan manufacture of most of the beehives found on the island is confirmed by details of their shapes that do not occur on beehives found off Crete, although the overall shape and functionality of the hives and extension rings, and even the rarely occurring ceramic lids, correspond to the general scope of ancient beehives from Greece. Compared to non-Cretan beekeeping equipment, these hives exhibit morphological differences, their size and thus capacities are smaller, and scoring patterns (or lack thereof) are idiosyncratic. The Cretan beehives are not even consistent as a single group and reveal a variety of types (or sub-types) that are not yet fully understood. Some of these distinctions might be chronological, and stratified beehives from the Gortyn excavations have indicated a change in shape from the early to late-Roman periods, over approximately 600 years (Di Vita 1988–1989, 448); this is the unfortunately the only opportunity to assess such diachronic developments, but is based on one later example. Other divergences may be due to regional practices or preferences, although again, numbers are small and it is difficult to confirm this without knowing the place of manufacture.

It has long been noted that the rim diameters of Cretan beehives are smaller than those of beehives from other parts of Greece. A small rim means a narrower body and thus a smaller capacity within the hive. The extension rings are similarly small in diameter because they must fit the hive rims. The smallest beehive/extension ring from Knossos has a rim diameter of 19.5 cm, while the largest is only 32 cm (Homann-Wedeking 1950, 185, no. 8b, c). Beekeeping equipment from Gortyn shows rim diameters between 19 cm and 38 cm (Martin 1997, 340, nos 403, 407). The beehive rim fragments recovered by the Sphakia Survey are within this range, with diameters between 17 cm and 36 cm, but an average of 21–23 cm; the larger examples are rare. In contrast, beehives from outside Crete are overall larger; for instance, Attic beehives have rim diameters ranging from 24.5 cm to 46 cm (Lüdorf 1998–1999, 99, nos. BR 80, BR 89; Rotroff 2006, 126). Crane's charts of comparative ancient Greek ceramic beehive and extension ring dimensions provide useful overviews of the differences

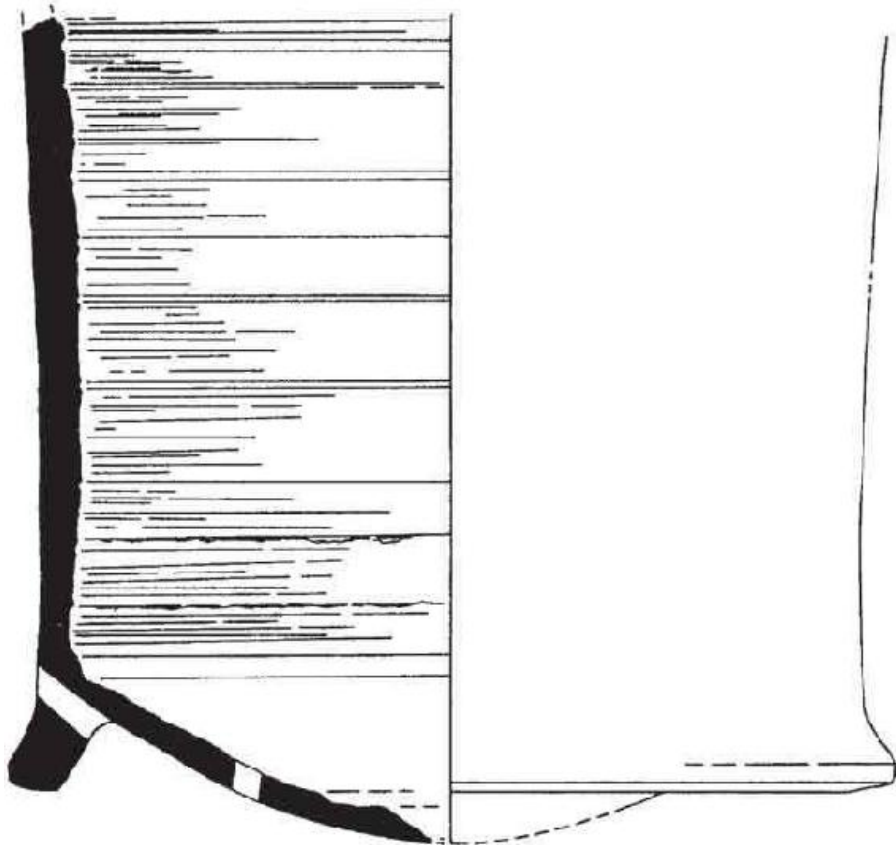
in size between Attic and Cretan hives (Crane 1999, 199, table 23.2A; 201, table 32.2B). The consistency of dimensions across Cretan examples indicates that the size was an island-wide preference, perhaps connected with ease of movement, the size of the swarms, or even the type of bees.

The smaller diameter of Cretan hives does not seem to have been matched by an increase in hive length, although no complete hives have been published. It cannot be determined, therefore, if there existed an average or desirable length, or if this changed over time; Rotroff's study of the beehives from the Athenian Agora indicates an increase in length (or 'height') towards the 1st century AD (Rotroff 2006, 126), but it is not possible to assess the Cretan hives similarly. One can, however, consider the numerous complete profiles of extension rings found on Crete. Published dimensions from Knossos indicate lengths of, on average, 3–6.5 cm, although one ring is 24 cm (Sackett 1992, 189, A2,96); one must wonder about the functionality of a ring only 3 cm long. In Sphakia, these rings measure between 5.5 cm and 15 cm in length. Examples from elsewhere in Greece are also within this range; the Vari House rings are at least 6 cm long (Jones *et al.* 1973, 399), although one ring from Thorikos measures 30 cm in length (Lüdorf 1998–1999, 112, no. E46). These longer examples are rare and seem to be the exception rather than the rule, and, while the Cretan beehives are generally narrower than hives elsewhere, the lengths of their extension rings, at least, are within the norms across Greece.

The majority of beehive fragments found on Crete belong to a horizontal hive with straight sides and two open ends, based on an almost complete lack of any wall fragments with indication of a floor or base. These beehives, which Davaras refers to as a 'pipe-like' beehive (Davaras 1986, 42) and Crane the 'cannon' hive (1983, 48, fig. 29), resemble post-antique beehives in use even today in parts of Crete and on many islands (Crane 1983, 48, fig. 29; Davaras 1986, pl. 1; Harissis and Harissis 1999, 18, fig. 4). Crete preserves only a few securely identified examples of ceramic beehive lids, from Knossos and Gortyn (Rendini 1988, 247, no. 236, fig. 208), and most hives would have been closed with mud and straw, discs of wood, or flat rocks like schist, which easily allow for access holes. This type of beehive may have been easier and faster to produce than the solid-based variety, but it is unknown whether it was developed by the potter, the beekeeper, or if it represents a collaboration. The body of

these beehives seems to be straight, and the form may taper towards one end, presumably the back of the hive, on analogy with post-antique examples.

The other two types of beehives are not common and exhibit morphological features either completely unique or rarely seen elsewhere. A small number of hives have a ring base attached to the termination of the wall, and within it a thin, sagging floor. This type was first identified at the Villa Dionysos at Knossos where the floor is pierced by a single hole (Fig. 7.1). This was the only known example of the type when it was excavated and published, but several fragments later excavated at Gortyn show the same shape: a lower wall and sagging floor with a perforation through it, from the so-called Praetorium (Martin 1997, 340, no. 409, pl. cxvi.3), and a base from a tomb at Kolokakia, which, like the Knossian example, has a floor pierced with a large central hole (diam. 1 cm) surrounded by at least two smaller holes (Di Vita 1988–1989, 449, fig. 33). The contexts and associated ceramics date this beehive type to the 1st and 2nd centuries AD (Di Vita 1988–1989, 448, n. 15). Further examples of this type have also come to light from the Phalasarna excavations but their dates are not certain nor is their affiliation with the harbour structures where they were found; these hives are unpublished but were discussed by the author at the 2011 Cretological conference in Rethymnon. Hayes defined the Villa Dionysos beehive, when it was found, as a particularly Cretan shape, although small numbers of non-Cretan beehives also display ring bases. These other examples differ from the Cretan hives: an example from the Vari House in Attica (Jones *et al.* 1973, fig. 13, no. 150) has a thicker floor and lacks the sagging floor profile; a fragment of a beehive from Kea (Cherry *et al.* 1991, figs 5.10, 5.18) has a higher foot and also lacks the curved floor. The dates for these non-Cretan beehives are late Classical to early Hellenistic, centuries before the stratified beehives of the Roman Villa Dionysos and the Gortyn excavations.



*Figure 7.1 Footed beehive, from Knossos, Villa Dionysos. From Hayes 1983, fig. 14, no. 177, by permission of J. W. Hayes.*

It is unclear how these footed beehives worked. The base implies that they were to be positioned vertically, but in their diameter and length they resemble the long, horizontal tube type of beehive. They also feature interior horizontal scoring on their walls. There is no reason why these beehives could not have been used horizontally, and perhaps their bases were intended to provide extra stability during another phase of honey/wax extraction or while in storage. The holes in the floors of these footed beehives probably served as flight holes or even for smoking, although the degree to which smoke was used to subdue the bees prior to harvesting is unknown. Ancient sources (e.g., Pliny *HN*, 11.15.45) provide instructions for smoking beehives, but do not recommend the process, as it is said to affect the quality of the honey negatively. One assumes, however, that the practice was carried out with some regularity, but the lack of identified Roman-period bee smokers in the archaeological record suggests that many Cretan beekeepers could subdue their bees without smoke. The

Knossos footed beehive displays the additional feature of a hole through the ring of the base, a feature that would serve no useful purpose in beekeeping. It may have been used for suspension during transport or for dripping honey out of the combs, although the combs were normally cut out before the honey was removed.

The third probable Cretan beehive type seems to develop in the late-Roman/early Byzantine period and is represented by a very small number of examples from Gortyn, Eleutherna, and possibly Sphakia (Fig. 7.2, see Pl. 32). This is a bullet-shaped hive tapering slightly to a closed, rounded end and topped in the centre by a small, round, flat button (Yangaki 2005, 48, fig. 61a, no. 61). Gortyn preserves indications of two such hives, one of which is extant only in the button, but the Eleutherna example is complete and illustrates the type well. The preserved lower walls in the curved section do not seem to have been pierced, and the purpose of the terminating button is unknown. It is too small to function as a base and does not increase stability; Di Vita has suggested that it might have been used to anchor a rope for suspension (Di Vita 1988–1989, 448). The Eleutherna curved hive is the earlier example and comes from contexts of the 3rd–4th centuries AD (Yangaki 2005, 48). The larger of the two Gortyn beehives comes from a Byzantine House (Di Vita 1988–1989, 448, fig. 34), while the other, from the ‘Praetorium’ excavations, is dated to the 6th century on the basis of associated pottery (Martin 1997, 340, no. 408). Two fragments from the Sphakia Survey may also represent this type. These are undated body sherds, but both exhibit a curve down to a rounded end and very deep, dense, horizontal scoring. The better-dated examples from central Crete suggest a date of 3rd–6th centuries for the Sphakia hives.





*Figure 7.2 Button-type beehive, from Gortyn, Praetorium excavations. From Martin 1997, 340, fig. 126, no. 409, by permission of the Scuola Archeologica Italiana di Atene.*

The fabrics defined for these button-type beehives are all local: both the Gortyn and Eleutherna hives are thought to have been made at those sites, and the fabrics of the Sphakia fragments, although they cannot be fixed specifically within Sphakia, are certainly plausible within Crete: one example is made of a metamorphic clay and the other is a sand paste with ‘white speckles,’ which are probably calcitic pseudomorphs (Moody *et al.* 2003, 73, 89–90). This evidence indicates that this beehive type was produced at multiple sites across Crete in the Roman to late-antique period and that it was not specific to one

site. The low number of identified fragments is slightly problematic, but this type seems to have co-existed with the ongoing manufacture and use of the open-ended beehives; one may consider the contemporary beehives from excavations at Aghia Galini (Vogt 1991–1993, 70–1, figs 17.2–4, 6). Many fragments of button-type hives may also have been misidentified; fragments without interior scoring would be indistinguishable from plain coarse-ware vessels like amphorae, whose dimensions are similar.

These button-type beehives do not exist entirely in a Cretan vacuum. They are related in their general rounded shape to late-Roman or Byzantine hives from Attica (Lüdorf 1998–1999, fig. 22, no. B17), but this form does seem to have a narrow chronological basis, as has been suggested by Di Vita for the Gortyn examples (1988–1989, 448). The button on the end, however, is as yet unprecedented on ceramic beehives outside Crete.

The scoring of Cretan beehives, although varying widely in appearance, reveals island-specific practices. The scoring applied to extension rings and beehives is more or less the same, although the shorter length of the rings and easier access to their interiors usually means that the scoring there is more regular and neater. Otherwise, most of the examples display scoring applied by a single instrument, and irregularly spaced lines of varied depths and widths are the norm. Most of these lines are horizontal, that is, parallel to the rim of the vessel, but these can be overlaid with occasional vertical or oblique lines. In very rare cases, the teeth of a comb can be identified, unlike Attic hives, whose neatly applied, cross-hatched combing stands out beside the messy Cretan lines. What percentage of these Cretan beehives were scored cannot be determined due to the lack of large-sized fragments or complete examples, and it is unknown whether they too, like Attic hives, were normally scored only on the section intended to be the top, or whether the lines were applied all around; evidence even from small fragments indicates no discernible pattern, and individual potters who scored the vessels may have been left to their own devices. Some of the Sphakia Survey beehives show the scoring up to and even over the rim, which can surely be ascribed to the potter, as it is unlikely that the bees would construct honeycombs in this location.

Very minimal evidence suggests that the scoring patterns of Cretan beehives might have changed over time. The well-dated button-type beehive from Eleutherna (Yangaki 2005, fig. 61a) displays regularly

combed horizontal striations overlaid with zig-zag curving lines, also produced by a comb. Two other examples from the site, however, show only dense horizontal engravings that do not seem combed (Yangaki 2005, fig. 6b, c). This new scoring pattern may be a regional trend or a whim of the potter, as the comparable and more or less contemporary button-hives from Gortyn do not exhibit the same detail; their scoring is only horizontal, irregularly spaced, and in single lines (Di Vita 1988–1989, 449, fig. 34).

### **The Roman beekeeping equipment from the Sphakia Survey**

The distribution of Roman ceramic beekeeping equipment across Crete is inconsistent with what is known of post-antique apicultural practices within other parts of contemporary Greece. Central and west Crete preserve abundant examples of ceramic hives, while very few have been found in east Crete. It may be that the wetter climate of the west produced more extensive vegetation like aromatic herbs than the drier east, as Zymbragoudakis suggests for modern apiculture (Zymbragoudakis 1979, 137). Small numbers of Roman hives have been noted from the Hierapytna isthmus in east Crete (Gallimore 2011, 153; Hayes and Kossyva 2012, fig. 53, E13–E16, pl. 47, E30–E34). The excavated hives from Knossos, Gortyn, and Eleutherna in central Crete are numerous enough to testify to consistent beekeeping throughout the Roman period in these larger urban centres, but it is survey projects in the west that have revealed the largest collections, especially the Akrotiri peninsula and Sphakia.

The following discussion will be based substantially on the Sphakia beekeeping equipment, which has been intensively studied by the author and forms the basis of a large-scale study, in preparation. A summary of their shapes and fabrics is as follows. Both beehives and extension rings have been identified in nearly equal numbers (116–120, respectively), but there is also a large group of fragments (163) that cannot be assigned to either shape with confidence. The eparchy preserves a single ceramic beehive lid (from site 6.25) and two possible beehive wasters, both from the same site on the Frangokastello Plain (site 8.50). None of these objects is complete, although many of the extension rings preserve both finished edges. No solid bases have been identified, except for the two possible examples of the rounded late-Roman type discussed above. The rims of the extension rings are very restricted in shape. They are always upright and slightly rounded, or sloped to one side, and it is not uncommon to

have one rim of each shape on a single ring (Fig. 7.3). The rims of the beehives are more diverse, but normally are thickened with a flattish top surface or flared/everted in varying degrees (Figs 7.4 and 7.5). Scoring is almost without exception executed with a single line; ‘messy’ is a good definition for this interior treatment, which is without any attempt at uniformity (Pl. 14). Several of the Sphakia beehives display incised lines or vague patterns on their exterior surfaces, a feature that has been noted for late-antique hives elsewhere on the island, as at Eleutherna (Yangaki, this volume) and Gortyn (Albertocchi and Perna 2001, 534, pl. clxxxv, v 2.4/3).

The fabrics of the Sphakia beehives and extension rings have also been studied and reveal considerable diversity. Many of them are made from sand-based pastes that are typical of much of the Greek and Roman pottery from Sphakia (Moody *et al.* 2003, 89–90). Many of the identified fabrics are characterized as fine to medium-fine in texture, and no distinction is made between the shapes: that is, the extension rings are not made from different fabrics than the hives themselves. Fine calcareous inclusions are common, and these clays have been identified as a typically Cretan fabric (Moody *et al.* 2003, 53; Kotsonas 2008, 465; Francis *et al.* 2011). Other inclusions, normally in small amounts, are ferrous, quartz, and calcitic pseudomorphs. Fabrics seen in beehives that are dated through their appearance also in diagnostic pottery are the ‘Creamy Powder Buff Tan’ fabric (Moody *et al.* 2003, 73), which runs from the Late Minoan III through early Roman period, and the ‘Dark Pink Mixed Nut Sand’ fabric, which is Classical to late Roman; the ‘nut’ in the latter fabric is a combination of a glassy and milky quartz sand with phyllite, silver mica, schist, and occasional ferrous rocks (Moody *et al.* 2003, 89–90). The geology of Sphakia produces terra rosa clays, except in one small pocket in the eastern Frangokastello plain, and the large number of paler beehives is likely to have been produced somewhere else on the island. Also non-Sphakiote is a beehive containing sponge spicules, which occur in neogene clay deposits and are known from other parts of Crete, including the region of Apokoronas just to the north of Sphakia (Moody *et al.* 2003, 97–100; 2010). Heavily igneous fabrics and highly micaceous fabrics, both of which are observed in a small number of the Sphakia beehives, indicate non-Cretan sources.

Ceramic beekeeping equipment of all periods was identified at 82 out of 366 sites in Sphakia and collected at 65 of these; 72 of these beehive sites contained remains dated to the late-Hellenistic through

Roman periods ([Appendix 7.1](#)). Four hundred and one fragments from these sites were intensively studied. This material is well distributed across Sphakia, with the exception of the Madhares in the high White Mountains where no fragments were found, probably due to a lack of adequate food for bees. The majority of these sites are identified as houses on the basis of domestic pottery assemblages, and varying site sizes are represented; this data is available on the Sphakia Survey website (<http://sphakia.classics.ox.ac.uk/>) and will be included in the final publication of the survey, now in preparation; these conclusions are based only on the number of beehive fragments available for study, as not all pottery observed on the ground was collected or analyzed. Non-domestic sites with beehives and extension rings are a watchtower with pottery of Roman date (site 3.05), a rock shelter (site 8.76), a cave with a Graeco-Roman ritual phase (site 8.61) (Francis *et al.* 2000), and a seasonal field house (site 7.01). Settlements range from single houses to small settlements (2+ houses), medium-sized settlements (10+ houses), and large sites (20+ houses). There is also a group of ten sites that seem to be devoted only to beekeeping.

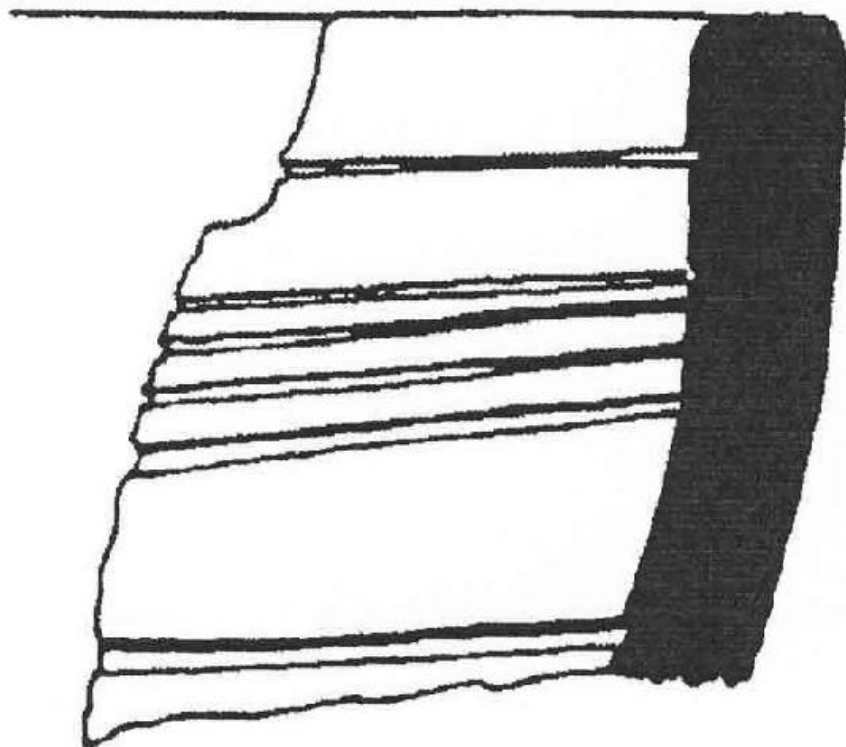
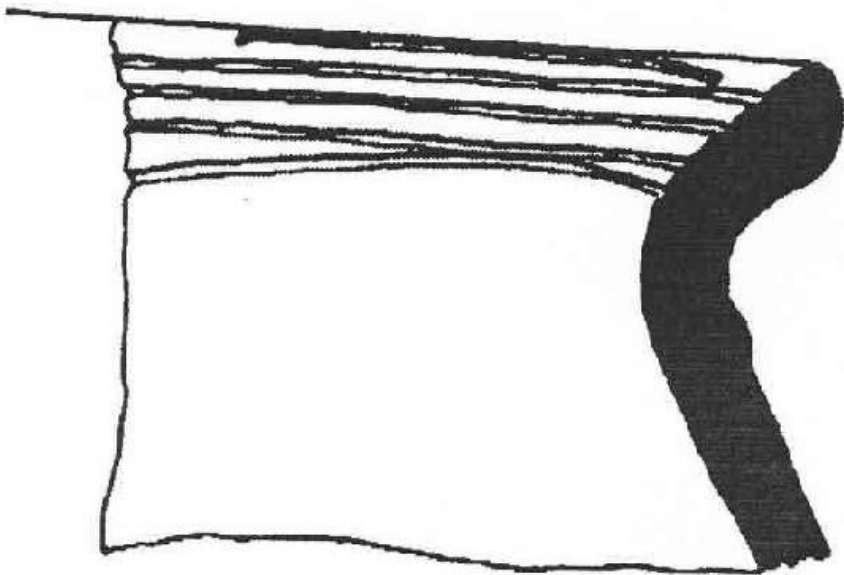
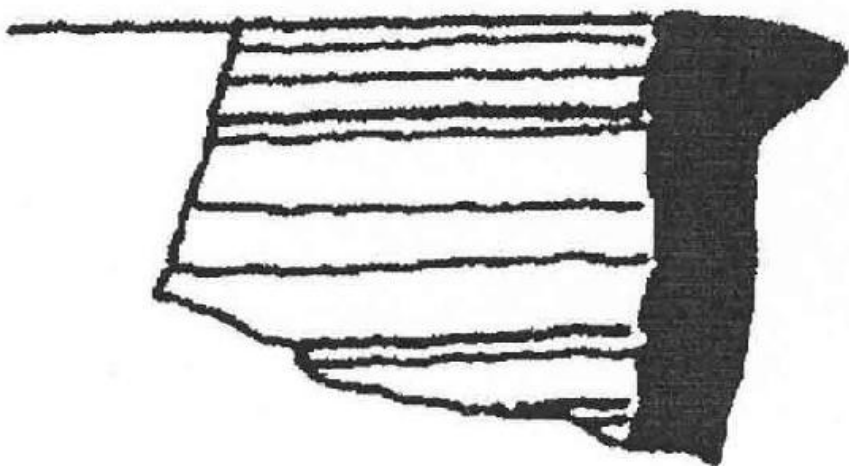


Figure 7.3 Beehive extension ring: Sphakia Survey BH-8. Drawing by A. Bowtell.



*Figure 7.4 Beehive rim: Sphakia Survey BH-104. Drawing by A. Bowtell.*



*Figure 7.5 Beehive rim: Sphakia Survey BH-248. Drawing by A. Bowtell.*

The large number of domestic sites with beekeeping allows some conclusions to be drawn regarding the role of beekeeping in daily life in Roman Sphakia (Pl. 15). Twenty-four single-house sites contain evidence of apiculture, 18 of which preserve fewer than ten fragments (Fig. 7.6). These small numbers probably indicate individual, household-based honey and wax production for the use of the family. Such a scenario may be comparable to modern hobby beekeepers who produce in amounts consistent only with their own needs. It does not seem feasible, unless the ceramic examples were significantly

supplemented by hives in other materials, that such small apiaries would produce enough honey or wax to be economically viable, although small-scale exchange for other products or for sale, perhaps with neighbours or as part of a small local marketplace, might be conceivable. A similar conclusion has been reached for the beekeeping evidence on the Hierapytna isthmus in east Crete (Gallimore 2011, 153).

Sixteen sites characterized as small domestic settlements preserve beehive fragments; ten of these have fewer than four fragments, again recommending an interpretation of independent beekeepers rather than a larger industry (Fig. 7.7). The remaining small sites, however, have larger numbers of hives (site 4.41 = 17 fragments; site 6.06 = 22 fragments). Such abundance may be understood as a more substantial apicultural industry, perhaps for commercial profit. Although it cannot be known who owned or controlled the hives, or whether the honey and wax were distributed to family groups, members of the community, or individual/sites farther away, a dedication to beekeeping beyond the needs of an individual household seems evident, even in small settlements.

A similar pattern is observed with medium-sized sites (Fig. 7.8). Six of these have beekeeping equipment, and exactly half preserve ten or more fragments (sites 8.69, 3.03, 8.72). This pattern, which argues for a degree of craft specialization in the clustering of apicultural activities at specific sites, perhaps intended to supply surrounding settlements or neighbourhoods, breaks down when one examines the larger sites in Sphakia, namely those with more than 20 houses (Fig. 7.9). Seven out of the nine identified sites with beehives in this category have six or fewer fragments. The two exceptions (sites 4.21, 8.50) have large numbers (13 and 18, respectively), but this evidence indicates that the larger sites did not necessarily produce the most honey and wax. This may have been due to a reluctance to introduce bees to more urban environments – beekeeping may have been better suited to more rural areas – but it may also be connected with available vegetation, which would be more abundant in the countryside, away from urban settlements.

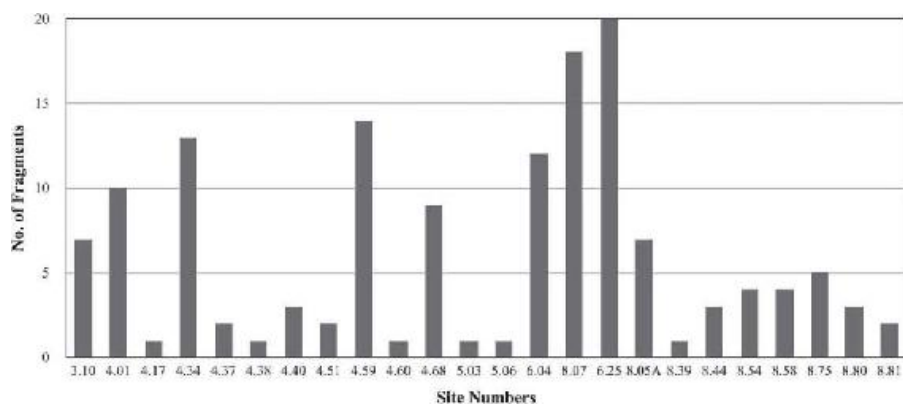


Figure 7.6 Single-house beekeeping sites in Sphakia.

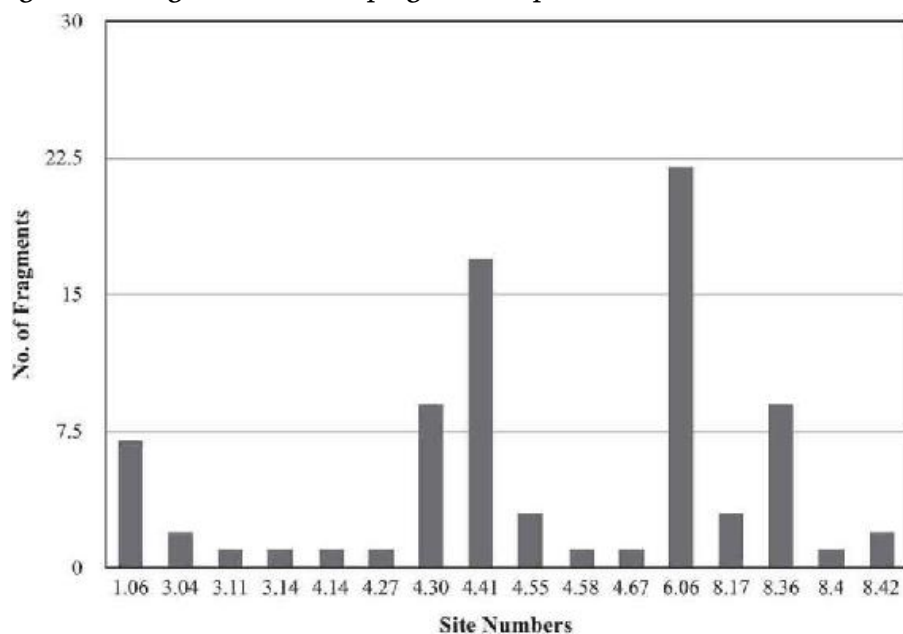
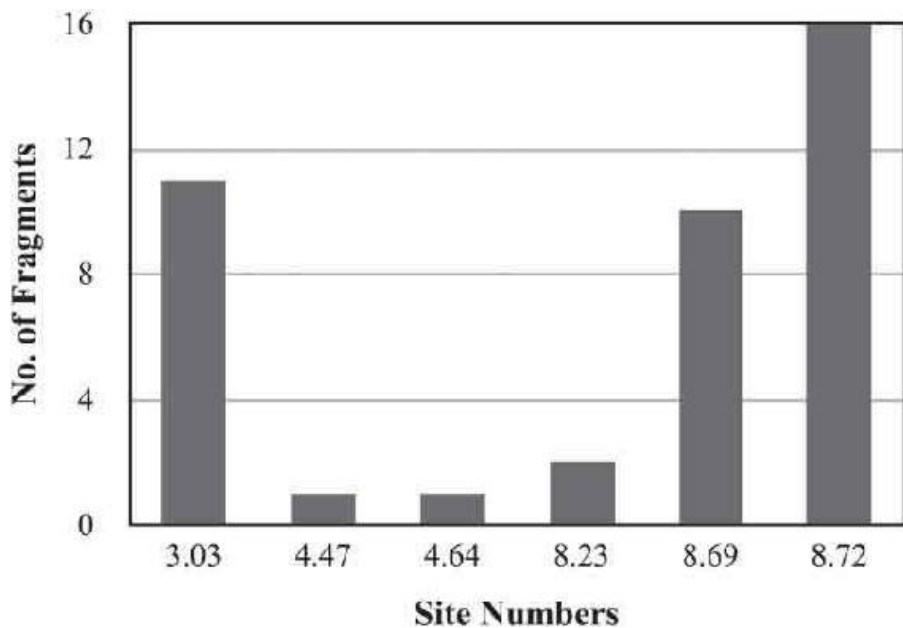


Figure 7.7 Small beekeeping sites in Sphakia.





*Figure 7.8 Medium-size beekeeping sites in Sphakia.*

Nine other sites illustrate well the commitment to beekeeping in Roman Sphakia. These are called ‘beehive sites’ and the majority of their finds are beehives and associated pottery; remains were recorded but not collected at some of these sites (Fig. 7.10). This pottery can be quite broadly defined, but normally consists of plain closed vessels like jugs and amphorae; one site contains a pithos. Conspicuously lacking or very rare at such sites are fine table vessels, especially decorated wares, and cooking pottery. This restricted repertoire of shapes can easily be connected with beekeeping: water may be brought to the hives in jugs or amphorae for watering the bees or feeding them honeyed water, and such containers might also be useful for collecting honey during the harvest of the honeycombs, although it is unknown if this activity occurred at the site of the hives. A pithos may serve the same collection purpose. The importance of fresh water in beekeeping cannot be underestimated, and two sites are located near cisterns (sites 1.09, 1.33).

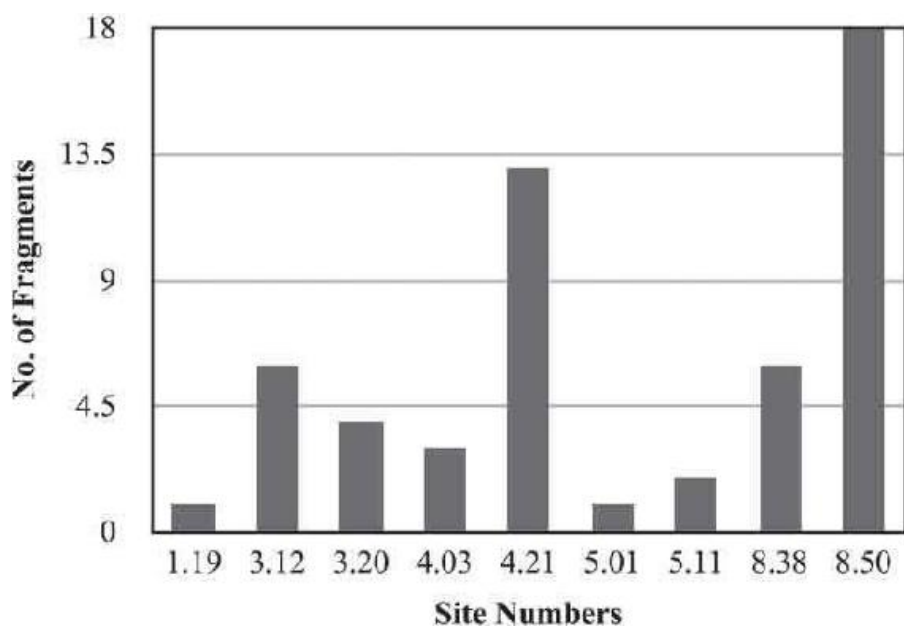
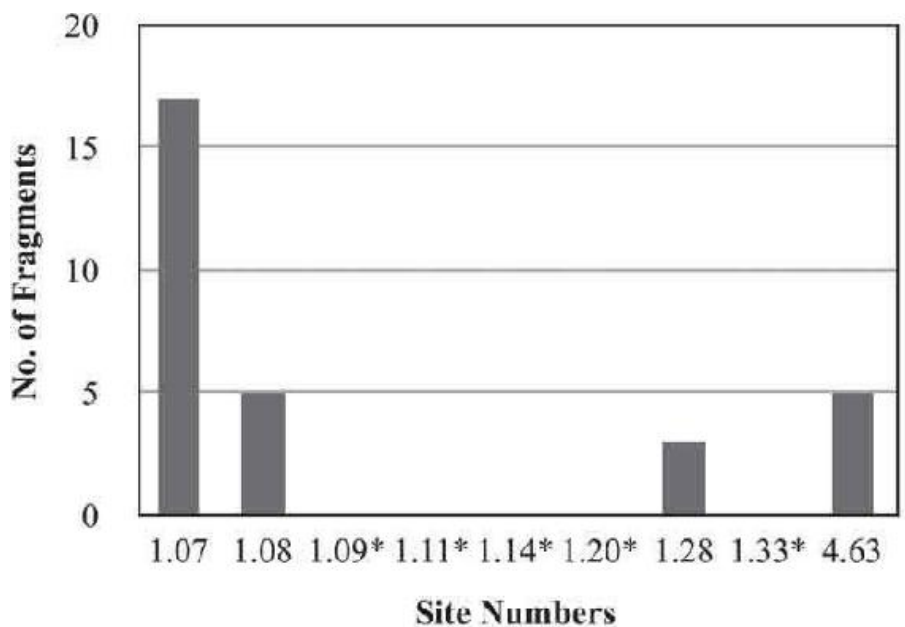


Figure 7.9 Large-size beekeeping sites in Sphakia.

These beehive sites can be easily identified because many of them are surrounded by a low, stone-built enclosure of vaguely circular shape whose use and construction sometimes continued into modern times, when they are called *melissokopeia*. These may be comparable to the *melittoni* or *mellarium* mentioned as bee houses by Varro (3.16.10). The post-antique examples in Crete are often located on top of disused agricultural terrace walls, which allow the hives to be set up in regular rows, elevated from the ground. These areas may have served several purposes: in a practical sense, they kept wandering flocks and herds and other marauding animals away from the bees, but they may have separated the beekeeping installations of one beekeeper or group of beekeepers from others, denoting ownership but perhaps also co-operative organizations. Such enclosures are not restricted to Crete and are known from ancient texts (Palladius 1.37; Columella 9.7.1); they also occur frequently throughout post-antique Europe, including in 17th century Thrace (Crane 1999, 325).



\* Not Collected

*Figure 7.10 Beekeeping-specific sites in Sphakia.*

The non-apicultural ceramics found in the Sphakia beehive enclosures occasionally provide chronological information about beekeeping; for instance, the beehive enclosure at Peradoro Pistes (site 1.08) contains a fragment of an African Red Slip vessel, which must be contemporary with the use of the site and thus its beehives, and perhaps even the construction of the enclosure, as no other type of activity is attested here. The use of these bee enclosures in Sphakia continue today, and a large, well-defined example still in use can be seen on the south-facing slopes of the village of Anopolis, in the foothills of the White Mountains.

Beehive enclosures are sometimes integrated into small or single-house settlements, as in the case of Ergastiria in central Sphakia (site 6.25), an example that demonstrates the relationship between domestic living and beekeeping in the Roman landscape of Crete. Ergastiria has one house and contains a good assortment of well-dated, local and imported household pottery from the Hellenistic through the Roman periods. The site preserves two walled beehive enclosures, one of which dates to the Venetian-Ottoman period, but the second is Roman, on the basis of the non-beekeeping pottery within it. The pottery from the enclosure is also contemporary with that from the house. The remains here indicate first that the household must have owned or controlled and managed the apiary,

but second that they valued their investment in beekeeping sufficiently to construct a wall specifically to protect the hives. This dedication to their bees must mean that economic gain was expected, although once again we cannot identify the mechanics or nature of distribution. One final comment on Ergastiria is of a speculative nature, but may serve to illustrate the attractions of large-scale beekeeping for Romans. The amount and quality of the domestic pottery from this site is unusual for Sphakia at this time, with a wider than normal assortment of imported, fine table vessels and amphorae. If one believes that imported pottery fetched higher prices than local wares – although this is by no means proven – then the inhabitants of Ergastiria were wealthy indeed, and it may be their beekeeping and production of honey and wax that made them so. There is some pre-Hellenistic pottery at Ergastiria, but it is more modest in comparison to the later Roman pottery, and it may be that the development of apiculture and the financial benefits of this industry enabled the inhabitants of Ergastiria to become considerably wealthier.

Another viable location for beehives in Sphakia and also in other parts of Crete is a cave or rock shelter, which provides a ready-made enclosure for hives (Zymbragoudakis 1979, 137). Many such areas are still in use today for storing hives, and some examples contain remains of several types of hives: the rock shelter at Patsianos Kephala, above the Frangokastello Plain in east Sphakia, preserves fragments of modern upright ceramic hives, wicker skeps hives, and wooden Langstroth hives mixed together. It is unclear if the bees were installed in the hives there or whether this was a storage area for hives then taken out to the fields, but it is an informative picture of modern beekeeping with a range of materials. Nearby, the deep cave of Agiasmatsi (Francis *et al.* 2000, 446–7, nos 86–7) also revealed fragments of beehives. Wild bees will, in fact, build their honeycombs in caves – like the town of Bee Cave, Texas, which is named for a swarm of wild bees living in a cave there – but it is more likely that the Agiasmatsi hives were installed in the protective mouth of the cave from where they tumbled down into its depths. These hives are similar to 5th century AD examples excavated at Knossos (Frend and Johnston 1962, 227, fig. 19, nos 92–3) and probably represent a late-Roman use of the cave unrelated to earlier ritual activities there. The Roman pottery from Skoteino Cave, currently under study by the author, also contains beehive fragments.

The diversity observed among the forms and fabrics of the Sphakia

beehives and their extremely wide distribution within the area can be interpreted in several ways. The manufacture of beekeeping equipment was not particularly specialized – indeed, the shapes are simplistic compared to other ceramic classes – and could be produced by a moderately competent potter. Few examples are poorly fired, so competency in firing technology is assumed. These are sturdy vessels intended to be mobile, sometimes within fairly daunting landscapes and hills, and their continued use over perhaps generations required durability. There is also almost no evidence for their re-use, unlike so many other types of pottery (Peña 2007), except as burial containers, as in the Kerameikos in Athens (Knigge 1976, 166, nos 397, 398, pls 70.8–10) and at Marathon (Jones 1976, 88–9, with figures); a rare complete beehive, still unpublished, from near Phalasarna and re-used as a grave is on display in the Kissamos Museum in west Crete. The lack of interest in recycling beehives may have been because these containers were often located in inaccessible areas and were thus not readily available, but they also seem to have been used for so many years that hives rarely stood empty.

The production and movement of ceramic beehive around Crete are also not yet understood. Local manufacture is a certainty, even if the shapes made were widely known; the button-type seen at both Gortyn and Eleutherna confirms this. But many others may have been made *ad hoc*, as required, by potters whose workshops remain unknown. It may also be the case, however, that some ceramic centres specialized in the production of beehives and that these vessels were available across regions or even the whole island. The modern inclusion of beehives in girls' dowries might also explain why some of them seem to have travelled some distance, like those made of the non-Cretan and non-local fabrics identified in Sphakia. The amalgamation of hives by different beekeepers into a collective enterprise, perhaps represented by some of the Sphakia beehive enclosures, would also produce a varied group of forms and fabrics.

### **Cretan beekeeping and the Roman world**

The archaeological remains of apiculture in Roman Crete confirms the importance of bees and their production of honey and wax and documents the appearance and distribution of apiaries, the relationship between bees in urban and rural contexts, and the manufacture of specifically Cretan types of hives and their possible morphological changes over time. What all this apicultural activity

meant to Crete in the broader scope of the Roman world is less easy to understand, as noted earlier. Still, some Roman texts provide evidence for the movement of honey and wax off Crete to other centres, at least within the Mediterranean region.

The limitations of using ancient written *testimonia* to confirm archaeological evidence or to reconstruct ancient activities are well known, but texts on bees and beekeeping can be particularly problematic. There are few extant sources, although references to works now lost indicate an interest in documenting the world of the bees and apicultural processes (Crane 1999, 204, table 5.21A). Most authors, spread across the Roman world from the Augustan period to late antiquity, quote and rely upon earlier texts for their information, and their sources are thus not independent of each other. It is also difficult to determine how much first-hand knowledge each had about his subject (Francis 2012). Regardless, what is important here is that writers who had never been to Crete mention both Cretan honey and wax, and, even if known through hearsay, these references indicate that the Cretans were engaged in export at a level substantial enough to have attracted foreign attention.

Discussions about the quality and properties of food products by ancient authors are well known. Honey and wax were necessary parts of so many aspects of daily life that very large amounts of them would have been essential. Honey was the only natural sweetener that did not require processing, and its uses ranged from simple consumption to ritual offerings; the offering of honey cakes on the Athenian Acropolis is a famous case (Herodotus 8.41). Wax was a necessary element for many practical objects and activities: e.g., waxed tablets, candles, and metal casting. Both products were integral to medicinal preparations. Wax can be recycled through melting, but it was also used for some processes that employed enormous amounts, like the casting of large-scale bronze statuary. Honey was also required in large batches, and a continual supply of both would have been a constant feature of ancient life. Yet not all areas could produce their own honey and wax, if landscapes did not support appropriate food for the bees or where beekeeping produced honey of poor or dangerous quality; the most notorious of these is the story repeated by numerous authors about the honey of the Pontus area whose consumption drove men insane (Pliny *HN* 11.21.77; Strabo 12.3.18; Polybius 4.38; Dioscorides 2.103). In general, honey from Attica was most highly prized (Strabo, 9.1.23; Pliny *HN* 11.32; Columella 9.3;

Dioscorides 2.101), although that from Hybla in Sicily (Strabo 6.2.2, 6.2.8; Dioscorides 2.101), and Spain (Strabo 3.2.6) was also praised. Such texts indicate an awareness among Roman authors that the quality of honey could vary considerably, and that various regions produced differing types and qualities.

The trade in honey and wax around the Mediterranean is rarely referred to in unequivocal terms by ancient authors. Strabo (3.6.9) tells of the Carni in northern Italy who exchange wax for foreign goods. The bees of the Sanii people in the Pontus region, whose honey is so poisonous, nonetheless produce wax of sufficient quality that it was given to Rome as tribute (Pliny *HN* 11.21.77). Polybius (4.38) records that the Pontus area around Byzantium exported large amounts of honey and wax, but presumably not the toxic variety. Turdetania, in Roman Spain, also exported wax and honey (Strabo 3.2.6; on wax, see Büll 1965; Forbes 1966; Büll 1967).

None of these references mention Crete, nor do any of them indicate the type of packaging used to ship honey and wax, let alone any that might still be available in the archaeological record. The usual container for the transport of liquid resources around the Greek and Roman worlds was the amphora, but clear evidence for amphorae that once contained honey is very slim, especially compared to amphorae for wine and olive oil. For Crete, the longstanding, but probably over-stated, impression that all amphorae manufactured on the island held Cretan wine has tended to overshadow the island's other resources exported in ceramic containers, including honey.

Honey in amphorae has been identified through *dipinti*, which begin in the Classical period (Lawall 2000) and continue into the Roman. Honey, which weighs one-third more than the same amount of wine or water, is often indicated by weight or capacity (Lang 1976, 80), and only rarely is the source mentioned: an amphora from the Athenian Agora proclaims its contents to be Hymettan honey (Lang 1976, 79, no. H29). The earliest of the set of honey *dipinti* from the Athenian Agora published by Lang is dated to the late 1st/2nd century AD (Lang 1976, 74, no. Hd6), while the rest are later, in the 3rd but mostly 4th centuries AD (Lang 1976, 79–80, nos He29, He33, He34, He36). One does not expect Cretan honey to appear in Athens, which was probably the richest apiculture region of Greece.

The export of Cretan honey to Italy, however, is documented. A group of five amphorae from Pompeii with *dipinti* are thought to have contained honey (Peña 2007, 104–5). One of these vessels held honey

from Corsica, another has honey possibly from Gallia, and one *dipinto* is interpreted as referring to thyme-flavoured Cretan honey (CIL 4.5741). This text has a second line mentioning a woman named Gavia Severa, who either owned or distributed the honey, or who was expected to receive it. This name is not otherwise known from Crete and it does not appear on any inscriptions on the island, but even this single amphora proves at least some export of Cretan honey outside the island.

The evidence of a Cretan honey amphora ending up in Pompeii puts into perspective further ancient references to Cretan honey and wax, although these are rare. There are abundant mythological stories that connect Crete with honey (Harissis and Harissis 2009, 308): Columella (9.2) cites the island as the place where beekeeping was discovered, Glaucus drowned in a vat of honey (Pseudo-Apollodorus 3.3.1), and the myth of Icarus escaping the labyrinth relies upon beeswax. The Roman agricultural and food writers provide additional and more practical information. Pliny (HN 11.14.33) includes Crete in a list of places notable for the quantity of honey produced. The ‘Akramanmorian’ honey from Crete is among the top honey varieties in the *Geoponica* (15.7.1); this area is thought to correspond with the Samonium promontory, or Cape Sideros, in the northeast part of the island (Sanders 1982, 138, sites 1/38, 1/40; Harissis and Harissis 2009, 7, n. 35), but textual traditions are irregular and the meaning of this phrase is not clear (Dalby 2011, 305, n. 5).

Other ancient references emphasize the curative powers of Cretan honey, which were recognized even in the Hellenistic period. A Ptolemaic papyrus dated to the early 3rd century BC mentions Cretan honey (Hanson 1972, 164–5), which is thought to have been imported for medical use (Gallimore 2011, 413). In the imperial period, Pliny (HN 21.46.79) states that the honey from the area of Mount Carina on Crete is particularly pure because no flies inhabit the place and thus do not contaminate the honey; this mountain has not been identified. Pliny further tells us that this honey is best used for medicinal purposes, and an inscription from the Asklepeion at Lebena (IC, I.xvii.17, line 15) referring to the use of Cretan honey in the cure supports this quality of this honey, as does its use in a mixture to treat vision problems, cited by Pliny (HN 29.38.119). Dioscorides (2.105) tells us that the best beeswax is Pontic or Cretan, while Celsus (5.18.31) recounts a cure for pain in the joints that includes Cretan wax.



The emphasis in the literary record on the medicinal excellence of Cretan honey and wax, which accords well with other classes of agricultural evidence for which Crete was famous, like medicinal herbs (Chaniotis 1999, 209), permits the tentative proposal that a substantial part of the Cretan export of honey was destined for medical means, although the thyme honey in the amphora at Pompeii suggests consumption. There is no written, epigraphical, or archaeological evidence that the ancient writers who provide these references ever visited Crete, and their statements must therefore be based on experience with the products, or the reputation for Cretan honey and wax must have been a familiar part of Roman life. In either case, it is possible to assume that a sufficient amount of the Cretan products were circulating throughout the Mediterranean for such opinions to be formed and maintained for so long.

It is difficult to understand how Cretan honey production and export fit into the overall commodities exchange and trade in the Roman world. Apiculture obviously played an important role in landscape use on Crete, but what happened to this honey and wax cannot be fully known. Unlike other liquid goods, honey is partially viscous and thus more inert; it is less likely to seep through or spill out of a non-ceramic container. It may thus have been shipped in skins, barrels, wooden crates, but it is also possible that the entire honeycombs were transported, a method that would not require amphorae; Zymbragoudakis (1979, 137) states that ancient beekeepers used goatskins to transport honey to market, although this interpretation may be based on later practices. One may also point out a flaw with the use of ceramic containers for transporting wine: as anyone who has tried to empty a glass or plastic honey jar knows, the amount of residual honey that sticks to the interior of the container is considerable, and amounts stuck inside a small-mouthed amphora would not be easily dislodged; heating the container would loosen the residue but leave marks on the clay, a pattern of burning/heating that has not been identified and may not exist. The use of amphorae might thus result in at least some of the shipment being lost or abandoned inside the packaging. Re-use of such containers is possible, and such honey-lined vessels would be conducive to the mixing of honeyed wine or *mulsum*, for example, whose medicinal properties were widely known (e.g., Pliny *HN* 14.6.53; Dalby 2003, 180). Wax, on the other hand, is unlikely to have been shipped in amphorae at all. Remaining solid as long as the temperature did not reach 45° centigrade, wax could be transported in lumps in almost any container, or even in the

open, and its movement in antiquity can only be identified through written sources.

Further details about the trade and potential economic value of honey is provided by Varro (3.16.10), who mentions an individual named Seius who had rented out his apiary for 5000 pounds of honey. The rental of such agricultural lands obfuscates an already murky situation, as those benefitting from the proceeds of apiculture may not be landowners, nor may landowners necessarily be the beekeepers. Honey may thus come to market from a variety of sources, as both renter and owner may sell their honey. Varro's next story (3.16.10–11) is about two brothers who turned a small piece of inherited land into an apiary planted with bee-attracting plants. These beekeepers took a profit of 10,000 sesterces from this endeavour, an amount that seems to have amazed Varro. He also states that the savvy beekeepers waited until the flow of honey was most abundant before taking their product to market. Like other agricultural goods, honey, and by extension wax, would have been a seasonal export.

The dearth of securely identified honey amphorae but fairly good knowledge for ongoing trade in Cretan honey and wax through written documents means that these commodities are seen by us today to have moved invisibly through the Roman marketplace, both on and off the island. They cannot be connected with the trends in Cretan amphora shipments, in terms of geographical distribution, the number produced and possible increases or decreases, or chronological changes tied to declining fortunes in the late-antique period. The earliest *dipinti* recording Cretan honey, those from Pompeii, are from the early Roman Empire and are thus contemporary with the majority of the ancient sources that mention Cretan beekeeping products (Pliny, Columella, Celsus, Dioscorides). This evidence does not necessarily support Chanotis' assertion that no Cretan honey was exported before the Roman imperial period, as the papyrus mentioning Cretan honey indicates at least some trade in the Hellenistic period. Excavated and dated 2nd century BC ceramic beehives from Knossos and Eleutherna show apiculture to be fairly well established at this point. The middle-Roman period is less clear, as literary references are lacking, and while excavated beehives still show apiculture flourishing on Crete and the apparent development of specifically Cretan beehive types, the export of honey and wax is still unconfirmed for the 2nd and 3rd centuries AD. Late antiquity furnishes slightly better evidence, with the appearance of the button-

based hive type, at least at Gortyn and Eleutherna in contexts of the 3rd–6th centuries, and the praise heaped upon Cretan honey in the *Geoponica*, which may be contemporary (or slightly later). As far as can be determined from the archaeological evidence of ceramic hives preserved on Crete, apiculture continues unabated through the Roman period and well into late antiquity. The Arab conquest in the 9th century that seems to have brought about the cessation of Crete’s foreign trade might in turn have resulted in an intensification of local honey and wax exchange. Certainly by the time of the rise of the Monasteries, apiculture was an important part of the monastic need for wax candles, and the image of the beekeeping monk is well known in Europe into modern times.

## Conclusions

The inclusion of Cretan honey and wax in modern reconstructions of Roman exchange networks should be encouraged, but such discussions should include a cautionary note about the scarcity of archaeological evidence and the vagueness of the literary *testimonia* upon which much of the evidence rests. The reputation of the island for supplying the Roman community with medicinal aids is securely attested, and it is possible to add honey to Crete’s specialized products. It also seems very likely that Cretan honey was enjoyed simply as a sweetener or used in the preparation of both domestic and ritual foods, but the amounts produced and exported by the island’s beekeepers cannot be known. There is no evidence about the networks by which these commodities reached the Roman marketplaces, both on and off the island, although a fair amount of independent sale within communities can be assumed. The *dipinti* on a handful of Cretan amphorae found at Pompeii suggest that honey comprised organized yet minimal exportation, possibly as part of Cretan wine shipments to Italy, but this does not seem to have been a regular occurrence in ceramic containers, and we can only, at this point, envisage Cretan trade in honey and wax via containers of biodegradable materials.

### *Appendix 7.1 Beekeeping site concordance*

| Site No. | Site Name                 | Site Type         |
|----------|---------------------------|-------------------|
| 1.03     | Prophitis Ilias NE Slopes | Unknown           |
| 1.06     | Peradho                   | Small             |
| 1.07     | Poikilasion Beehive       | Beekeeping Centre |

|      | Area                           |                   |
|------|--------------------------------|-------------------|
| 1.08 | Peradhoros: Pistes             | Beekeeping Centre |
| 1.09 | Peradhoros: Bee Enclosure      | Beekeeping Centre |
| 1.11 | Kladhos Beehive 1              | Beekeeping Centre |
| 1.14 | Kladhos Beehive 4              | Beekeeping Centre |
| 1.19 | SW of Old Ag. Roumeli          | Large             |
| 1.20 | Ag. Roumeli Ag. Paraskevi      | Beekeeping Centre |
| 1.28 | Tarrha                         | Large             |
| 1.33 | Angelokambos: Wall with Sherds | Beekeeping Centre |
| 3.03 | Panagia                        | Medium            |
| 3.04 | Ag. Ioannis-Sta Alonia         | Small             |
| 3.05 | Bardhasterna                   | Other (Tower)     |
| 3.10 | Gouronokephalo Ravine W.       | Single House      |
| 3.11 | Papadhiana/Vigna               | Small             |
| 3.12 | Gouronokephalo/Siopata         | Large             |
| 3.14 | Prophitis Ilias                | Small             |
| 3.20 | Aradhena                       | Large             |
| 4.01 | Ts'Asi Basin                   | Single House      |
| 4.03 | Ts'Asi Basin Assokephalo       | Large             |
| 4.14 | Mandra                         | Small             |
| 4.17 | Terrace Site                   | Single House      |
| 4.21 | Ancient Anopolis               | Large             |
| 4.27 | Prinaka/Lime Kiln              | Small             |
| 4.30 | Kombitsi                       | Small             |
| 4.34 | Cistern Site                   | Single House      |
| 4.37 | Prinaka SE                     | Single House      |
| 4.38 | Gonia Fan                      | Single House      |
| 4.40 | Peartree                       | Single House      |
| 4.41 | Limnia Basin                   | Small             |
| 4.47 | Kambia Dump                    | Medium            |
| 4.51 | Kambia NW                      | Single House      |
| 4.55 | Kaimites West                  | Small             |
| 4.58 | Limnia Basin                   | Small             |
| 4.59 | Whispering Pines               | Single House      |
| 4.60 | Limnia Slopes                  | Single House      |
| 4.63 | Xerovothonas                   | Beekeeping Centre |
| 4.64 | Klonias                        | Medium            |
| 4.67 | Makryvothonas                  | Small             |

|       |                                     |                            |
|-------|-------------------------------------|----------------------------|
| 4.68  | Perdhikokormo West                  | Single House               |
| 5.01  | Livaniana Akropolis                 | Large                      |
| 5.03  | Ag. Athanasios                      | Single House               |
| 5.06  | Pigadhouli                          | Single House               |
| 5.11  | Phoinix-Loutro                      | Large                      |
| 6.04  | Ag. Triadha Lime Kiln               | Single House               |
| 6.06  | Ag. Triadha Chapel                  | Small                      |
| 6.25  | Ergastiria                          | Single House               |
| 7.01  | Niato 1                             | Other (Field House)        |
| 8.03  | Komitadhes Ag.<br>Georgios          | Unknown                    |
| 8.05A | Ta Livadhia                         | Single House               |
| 8.07  | Nomikiana S                         | Single House               |
| 8.08  | Ag. Nikolaos (Hood<br>B1)           | Unknown                    |
| 8.17  | Ta Kaminia (Hood B4)                | Small                      |
| 8.23  | Trochali (Hood B6)                  | Medium                     |
| 8.36  | F/K Lime Kiln                       | Small                      |
| 8.38  | Ag. Astratigos (Hood<br>B7)         | Large                      |
| 8.39  | F/K Sheepshed                       | Single House               |
| 8.40  | Ag. Pelagia Structure               | Small                      |
| 8.42  | Patsianos Village                   | Small                      |
| 8.43  | Patsianos Playground                | Other (Settlement)         |
| 8.44  | Patsianos Ag. Ioannis<br>Vokolos S. | Single House               |
| 8.50  | Ag. Nikitas-Ag.<br>Kharalambos      | Large                      |
| 8.54  | F/K Wells                           | Single House               |
| 8.58  | F/K Ag. Ioannis<br>Rockpile         | Single House               |
| 8.61  | Agiasmatsi Cave                     | Other (Cave,<br>Sanctuary) |
| 8.69  | Skaloti Terraces                    | Medium                     |
| 8.72  | Skaloti Prophitis Ilias             | Medium                     |
| 8.75  | Ag. Marina Katalimata               | Single House               |
| 8.76  | Koprokephalo Rock<br>Shelter        | Other (Rock Shelter)       |
| 8.80  | Ag. Marina Cliff<br>Shelter         | Single House               |
| 8.81  | Ag. Marina Enclosure                | Single House               |

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In assessing the distribution, abundance, and mechanisms for beekeeping in Roman Crete, it is important that future scholarship focus first on the physical characteristics of the hives and extension

rings themselves, and more detailed research is needed, especially from stratified examples, to track the appearance of what seem to be Crete-specific shapes, like the ring-base and button-base varieties. The distribution of these vessels is probably more widespread than previously suspected, and it may be possible, with intensive fabric analysis, to determine where they were made, at how many centres, and whether their shapes or fabrics have chronological meaning. Even the scoring patterns may provide useful data, as late-Roman hives seem to display dense, horizontal scoring that may be tied to their date. The extent and particular features of Cretan beekeeping equipment need to be better understood, especially in comparison with beehives and beekeeping traditions from elsewhere in Greece, and it is hoped that ongoing research will continue to refine our understanding of the contribution made by bees and beekeepers to the landscape use, commercial networks, and ceramic traditions of Roman Crete.

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# Roman imperial sculpture from Crete: a reappraisal

*Pavlina Karanastasi*

## Introduction

The Roman period in Crete was one of great economic prosperity and affluence, as research has shown (Sanders 1982; Harrison 1993; Paton and Schneider 1999; Chaniotis 2008; Markoulaki 2009; Bechert 2011; Gallimore 2011; Karanastasi 2012; Sweetman 2013; Kouremenos forthcoming; Gallimore, this volume). To a large extent, this situation was influenced by the settlement of colonists from Italy, which had already begun by the final conquest of Crete by the Romans in 67 BC and continued at least into Augustus' time, when the island was united with Cyrenaica into one province and the Roman colony of Knossos was founded (Paton 1994; 2004; Baldwin Bowsky 2004; Sweetman 2006; 2007; 2010; Baldwin Bowsky 2011). The decisive factor was that these settlers, primarily merchants as well as veteran soldiers (Wilson 1966, 146; Baldwin Bowsky 2001; 2007; Chaniotis 2008), were accustomed to high living standards with good quality housing and imported household objects; they were also familiar with the methods of extensive cultivation and production of goods that significantly defined the island's development.

Monuments of any kind dated from this early period down to Augustus' reign are particularly few. Among these is the dedication by the city of Polyrrhenia of a statue in honour of Crete's conqueror, Q. Caecilius Metellus (*IC* II.xxiii.14; Lagogianni-Georgarakos 2002, 15; Croz 2002, 141–2; Martinez Fernandez 2012, 104–5, no. 16); despite this inscription, the general appearance and sculptural type of this statue remain unknown.

## Sculpture from the early Roman Period on Crete

A male portrait found in the summer of 2011 during salvage excavations in Lappa, modern Argyroupolis, considerably enriches our scant knowledge about this early period (Ht. 0.31 m, head Ht. 0.223 m) (Pl. 16). This head belongs to the late-Hellenistic portrait tradition

from Delos and should be dated to the period before the mid-1st century BC, based on analogous works (Michalovski 1932, 10–11, pl. 9; 11–3, pl. 10/11; Schweitzer 1948, 63, n. 6, fig. 60; 72, n. 2, fig. 71; Croz 2002, 39–42, nos C12, C13, C18–C23, 152–63; Vorster 2007, 279–80, figs 244a–c, 245a–b; Fejfer 2008, 262–70, figs 187, 189–92), most certainly before Pompey's main portrait type (Giuliani 1986, 56–100, figs 1–4; Strocka 2004, 60–6; Megow 2005, 63–73). The statue type of the portrait, which was made for insertion, is unknown. The forceful twist to the right, emanating vigour, may suggest a man of the military, and the body may therefore have been either that of a cuirass or an equestrian sculpture, similar to the statues dedicated to honour C. Billienus and other Romans on Delos (Tuchelt 1979, 96–8, fig. 7; Bergemann 1990, 67–8, no. P17, pl. 24b; Queyrel 1996, 196–7, no. 88; 200–1, no. 90; Croz 2002, 156). It is noteworthy that this is the earliest and first portrait of Roman character in Crete, and it thus offers an example of the sculptures set up by the Cretan cities to honour Roman generals and magistrates following the island's conquest. A few decades later, during the early imperial period, Lappa would honour the general and Augustus' son-in-law M. Vipsanius Agrippa by dedicating his portrait statue as the city's patron (Tanner 2000; Tzifopoulos 2007; Baldwin Bowsky 2007).

Equally suggestive but not sufficiently assessed with regard to the early presence of settlers from Italy is a number of table supports (*trapezophoroi*), still relatively unknown or unpublished, that reveal the transmission of an elite way of life unfamiliar until then to a rather conservative and inward-looking Crete (Tegou 2010; Karanastasi 2012, 439–40, with nn. 29, 30; also Milidakis and Papadaki, this volume). In particular, a support-slab from a Roman two-legged table bearing floral motives and a pair of confronting goats over a krater (0.70 × 0.90 m), embedded above the lintel of the church of Aghios Georgios in Fodele (Lassithiotakis 1951; Börker 1973, 292; Cohon 1984, 213, no. 49), shows the high quality of early relief works on the island (Pl. 17). The rear side of the slab is no longer visible, but it must also have been decorated in relief (Börker 1973, 284–7, figs 2a, b). The rendering of the floral decoration still betrays a Hellenistic influence and hence is dated approximately to the mid-1st century BC or somewhat later (Hörmann 1932, 60–4, pls 47, 48). Similar examples found in villas at Pompeii and its vicinity demonstrate that these extremely heavy marble tables were placed in *atria*, behind the *impluvium*, or between the columns of the peristyles to display their owners' social status; these heavy tables tend to be

found only in the most luxurious of houses (Cohon 1984; Moss 1988; Markoulaki 2009, 340–1; Milidakis and Papadaki, this volume).

A large fragment of a Neo-Attic calyx krater from Eleutherna bearing the image of a maenad in ecstatic dance (Pl. 18) belongs to this group of expensive and luxurious objects (Tegou 2004; Fiolitaki 2011–2013), based on both its chronology in the early years of Augustus' reign and the rarity of this group elsewhere in the Greek world. According to N. Fiolitaki (2011–2013), it might have been made in Italy and imported to Crete in the same way perhaps as another vase of similar style and date, also from Eleutherna and known from only one large fragment with floral decoration (Themelis 2004, 188, no. 92).

### Geographical distribution and workshops

From the time of Augustus onwards, the number of sculptures seems to increase considerably, both portrait statues and ideal sculptures (Karanastasi 2012), perhaps compared to the modest presence of sculpture up until the early imperial period. Even the Hellenistic sculptures are rather limited or perhaps still not adequately known (Sporn 2002, 348–51; Lagogianni-Georgarakos 2006; Gercke 2007, 122–30, nos 31–34).

Apart from the numerous works in the museums of Crete (Stavridis 1985; Papadakis 1998; Romeo 1998; Portale 1998; Lagogianni-Georgarakos 2002; Karanastasi 2012), many of the so-called emigrant sculptures were removed from the island during the Venetian domination, the period of Ottoman rule, and during the early 20th century. Recent studies have shown that the number of Cretan works in foreign museums is quite substantial and includes samples of all categories of sculpture (Papadakis 1986; Voutyras 2002; Karanastasi 2012, 434–6; Sporn 2012b).

The so-called Athena bearing a *cista* in the Louvre stands out among these (Fig. 8.1); this statue is thought to have been a variation of an Athena statue type either of the late 5th or most probably of the 4th century BC, the Athena Charchel-Ostia type or Hephaisiteia (Waywell 1971, 381, no. 1, pl. 71a; Todisco 1993, 61, fig. 86; Gercke 2007, 83, no. 15; Altripp 2010, 297–9, no. OC III, 1, pls 31,3, 31,1–2; Sporn 2012b, 203, n. 24). It is apparently a work of the 2nd century AD, probably with its original head, although the shape of the aegis and the object held in the left hand vary from other copies (Waywell 1971, 377, 381, no. 1; Landwehr 1993, 47, n. 9). Its less-finely made

left and rear sides indicate that the statue, considerably smaller than life size, was placed in front of a wall or inside a niche. The head wears a helmet and inclines downwards, turned slightly to the left towards the object held in the left hand. The lean, youthful face and the relatively small head are closely paralleled to a head of Athena, possibly of the same type (Paribeni 1959, 58, no. 121, pl. 76; Altripp 2010, 297–9, 323, no. Ve, V6, listed among the copies of the Athena Vescovali, despite the fact that the head clearly inclines downwards) from Cyrene, a region that enjoyed strong artistic relations with Crete (Karanastasi 2012, 446, figs 7, 15). The reported provenience of the Athena with the *cista* in Selino in southwestern Crete, an area still largely unexplored, is worth mentioning though cannot at present be proven.



Figure 8.1 Statue of Athena bearing a cista, from Selino in southern Crete (Paris, Louvre Museum, MA 847). Alinari 22661.

Most of the ideal sculpture from the island attributed to originals of the Classical period is of high quality. Examples include the copy of the Peplophoros of the Candia type in the Archaeological Museum of Herakleion (Fig. 8.2) (Karanastasi 2012, 438, fig. 6) and that of the Kore of the Hierapytna-Torlonia type in the Ierapetra Archaeological Museum (Karanastasi 2012, 438, fig. 7). Equally impressive is the copy of the Leaning Aphrodite (Fig. 8.3) discovered in the temple of Pythian Apollo at Gortyn and now also in the Herakleion Museum (Karanastasi 1986, 261–4, 290–1, no. AII 1, pl. 69; Romeo 1993; Romeo 1998, 85–8, no. 11, pls ivc–d, va–c). All three sculptures cannot be dated earlier than the 2nd century AD, like most of the ideal works found on Crete.

The distribution of good-quality sculptures in many large urban centres is worth noting, though the better-known examples thus far have been found in the capital city of Gortyn (Romeo 1998; Portale 1998). Hierapytna has yielded a large number of sculptures, both ideal and portraits (see Fig. 8.8, Pl. 21), which still have not been adequately studied (Apostolakou 1980; Papadakis 1986; 1998; Di Napoli 2010, 816; Karanastasi 2012, figs 1, 2, 7, 8, 12, 18; 2012–2013, 339–42, 362–3, no. 12, pl. 6). The Peplophoros of the Candia type (Karanastasi 2012, 438, fig. 7; 440, fig. 8) does not originate in Herakleion, as her name suggests, but comes from Kissamos. This coastal city developed into an important port during the Roman period, similar to Hierapytna, Chersonisos, and other sites on the island (Markoulaki *et al.* 2004; Markoulaki 2009, 337–8; Gallimore 2011). To the Peplophoros figure may be added a now-headless cuirass statue of Hadrian (Di Napoli 2010, 815; Karanastasi 2012–2013, 339–42, 363, no. 13, pls 7, 1–3), apparently found in Kissamos' theatre, which was never systematically excavated and no longer exists (Pl. 20). Some notable pieces of sculpture, often of small size and mostly ornamental, were also discovered in a bath complex (Karanastasi 2012, 446–7, n. 68, fig. 16) as well as in the elite Roman houses at Kissamos (Markoulaki 2009, figs. 1–3, 12, 17).

The great development of Chersonisos, the port of Lyttos, should also be viewed within the context of the progress of the coastal cities during Roman times (Grigoropoulos *et al.* 2008). Chersonisos has produced a large number of portraits and portrait figures (see Figs 8.11, 8.12) (Lagogianni-Georgarakos 2004; Di Napoli 2010, 817), such



as the statue of a mature lady depicted in the type of the Large Herculaneum Woman (see [Figs 8.23, 8.24](#); Lagogianni-Georgarakos 2002, 75–6, no. 43, pls 46–8) and a man wearing the Greek himation, the *Palliat* type (Karanastasi 2012, 437, fig. 5). The rarity of ideal sculpture is best understood as a random phenomenon, as all artefacts from the area of Chersonisos have been chance finds unearthed in rescue excavations.



*Figure 8.2 Copy of the Peplophoros type Candia, from Kissamos (Archaeological Museum of Herakleion, 2). Photo by G. Hellner, German Archaeological Institute of Athens, D-DAI-ATH-1968-744.*



*Figure 8.3 Copy of the 'Leaning Aphrodite,' from Gortyn (Archaeological Museum of Herakleion, 325). German Archaeological Institute of Athens,*

Even though Knossos was the only Roman colony on the island (Paton 1994; 2004; Baldwin Bowsky 2004; 2011; Sweetman 2006; 2007; 2010), it has revealed a rather limited number of large-scale sculptures (Figs 8.9, 8.15, 8.18, 8.19). Hadrian's portrait statue (Fig. 8.9) (Lagogianni Georgarakos 2002, 91, no. 71, pl. 75; Cavalieri and Jusseret 2009, 391–4, pls 48, 50.1; Karanastasi 2012–2013, 339–42, 363, no. 14, pls 7, 4–6), currently displayed at the Villa Ariadne, should be also considered in relation to the significance of the city as a colony (Cavalieri and Jusseret 2009). It was discovered in the so-called Villa Dionysos, although its original location is uncertain (Sanders 1982, 69–70; Paton 1998). Despite the few large-scale sculptures found so far at Knossos, other groups of finds indicate their importance in the production and circulation of this type of art in Roman Crete. These include mostly small-scale sculptures, such as the miniature copy of Dionysus Sardanapalus in the Herakleion Museum (Figs 8.4, 8.5), found in the vineyard of the Villa Ariadne (Ashmole 1919–1921; Pochmarski 1972–1975), as well as small statuettes discovered as a group that may well have been part of a late-Hellenistic or early Roman collection from an unknown residence at Knossos (Catling and Waywell 1977). A much later parallel is the Niobid group from Inatos, modern Tsoutsouras, in the Herakleion Museum (Marinatos 1934–1935; Geominy 1984, 134–46, figs 150, 151), which dates in the early 3rd century AD. Moreover, fragments of plaster figurines and at least seven male and female portrait busts found in the so-called House of the Diamond Frescoes (Waywell 1992) are of interest. This final category, quite rare in Greece and associated with the abundance of raw material – i.e. gypsum for plaster – in the vicinity of Knossos (Waywell 1992, 340–1), is a clear indication of an extensive production activity in the city at a fairly late period, the last decades of the 2nd century AD.

The ancient city of Lappa also ought to be included in those cities that have revealed noteworthy finds. Besides the portrait mentioned earlier (Pl. 16), the city has preserved other sculptures, like a Roman variant of Aphrodite of the Louvre-Naples type (Pl. 19) (Karanastasi 1986, 273–4, no. AI, 21, pl. 59) and a copy of the so-called Aspasia with a portrait head dated to c. mid-2nd century AD (Marinatos 1933–1935, 66–7, no. 10, pls 1–2; Guerrini 1974, 226, no. A, pl. 32; Portale 1998, 238, n. 836), both housed in the Rethymnon Museum. The latter was, until the discovery of the Roman male portrait cited

earlier, the only portrait sculpture from the city. One or more local workshops must have been in operation in Lappa, as attested by products of lower-quality proportions and finishing, like a considerably smaller than life-size statue of Artemis/Diktyнна (Fig. 8.6) (Marinatos 1933–1935; *LIMC* 3, s.v. Diktyнна, 393, no. 8 [Boulotis]; Sporn 2002, 256, n. 1925), and an unfinished statue of the Capitoline Venus, apparently a work of an apprentice in a local workshop (Karanastasi 2012, 444, n. 60); this unpublished work had been carved on an earlier draped female sculpture (Archaeological Museum of Rethymnon, Λ 52).



*Figure 8.4 Small-scale copy of Dionysus Sardanapalus, right side, from Knossos (Archaeological Museum of Herakleion, 315). German Archaeological Institute of Athens, D-DAI-ATH-1973-0747.*





*Figure 8.5 Small-scale copy of Dionysus Sardanapalus, from view, from Knossos (Archaeological Museum of Herakleion, 315). German Archaeological Institute of Athens D-DAI-ATH-1973-744.*

Important works have also been found in Eleutherna (Pl. 18) (Themelis 2004; 2006) and in Aptera (see Figs 8.22, 8.25) (Karanastasi 2012, 436, figs 3, 4). In Kydonia, modern Chania, the Roman period in general and the use of sculptures in particular are less known, owing to the continuous habitation in the city (Andreadaki-Vlazaki 2007; 2009; Di Napoli 2010, 815–6). However, a larger-than-life portrait possibly of Constantine (L'Orange and Unger 1984, 69, 121, pl. 48c, after AD 324; Vermeule 1968, 354, 516, n. 1, fig. 177) and a torso of a *togatus* from the late 2nd century AD, which were previously joined (Mendel 1914, III, 344 no. 1107; Goette 1990, 141, no. Ca 8, pl. 30, 6), come from ancient Kydonia. These sculptures belong mainly to the class of honorary or funerary statues, a category unknown in Crete before the Roman period. To the same category belongs a remarkable female bust dated to the early 5th century AD (see Figs 8.20, 8.21), which comes from a systematic excavation of ancient Kydonia (Markoulaki 1982, 376, pl. 265a; Stavridis 1985, 103, pls 13, 19.3; Frangakis 2010; Tzanakaki 2013).



*Figure 8.6 Small statue of Artemis/Diktyнна, from Lappa/Argyroupolis (Archaeological Museum of Rethymnon, Λ102). German Archaeological Institute of Athens, DDAI-ATH-1968-773.*

It should be stressed, in connection with the geographic distribution of works during the Roman period and primarily, with the

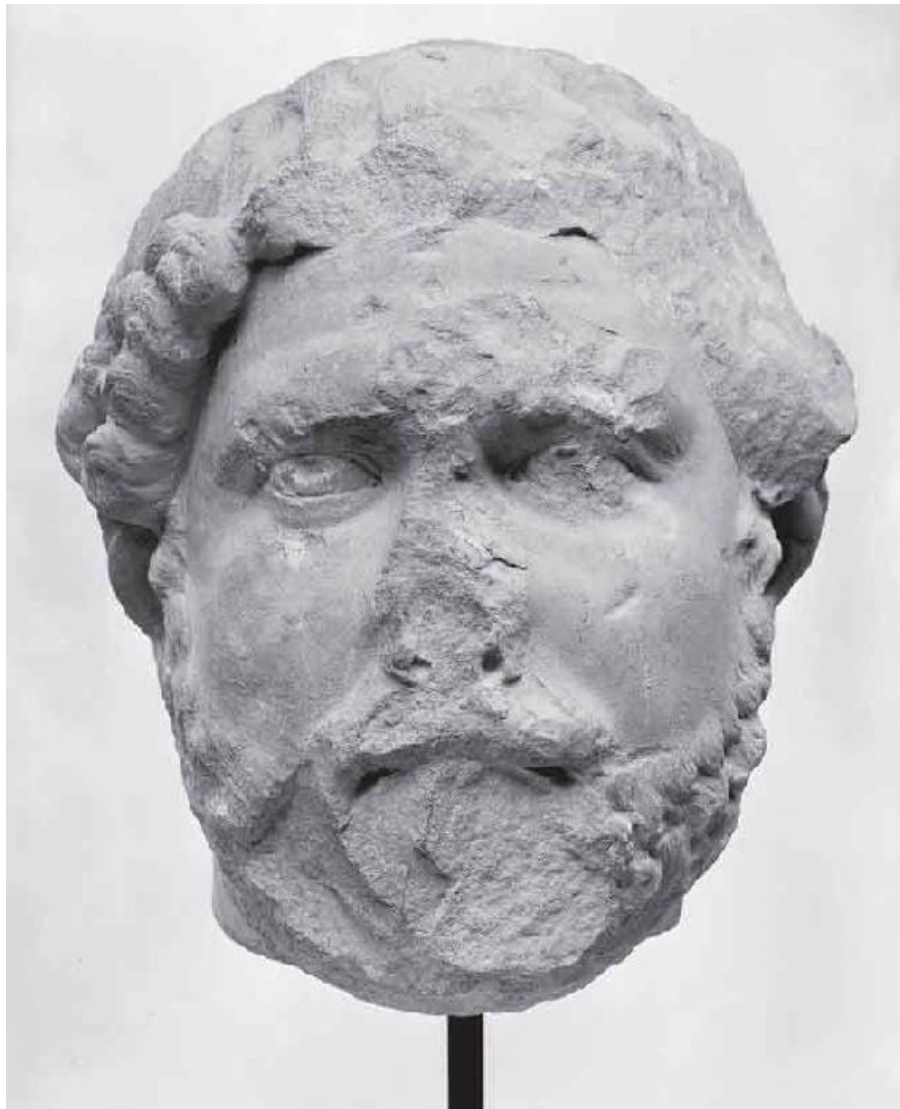
organization of sculpture importation and the operation of local workshops, that more than one copy of particular statue types of usually different provenience has been found on the island (Karanastasi 2012, 445, n. 61). The most popular was that of the so-called *Aspasia* discovered throughout Crete in several copies of various sizes (Guerrini 1974; Karanastasi 2012, 445–6). However, two different copies of the *Pothos* attributed to Scopas (Papadakis 1998, 62–3, no. 752; Romeo 1998, 147–51, no. 36, pl. xiiiid; Karanastasi 2012, 445, n. 61), two of *Hygeia* of the *Zara* type (Papadakis 1998, 32–3, no. 834; Romeo 1998, 135–8, no. 31, pl. xiic; Karanastasi 2012, 445, n. 61), and a portrait of a young man with no relation to imperial iconography have been also found (Lagogianni-Georgarakos 2002, 62, nos 21, 22, pls 23, 24; also Voutyras 2002). The case of two known examples of a nymph carrying a shell-shaped *lekanis* supported on a column decorated with *acanthus* leaves is likewise indicative; one comes from Gortyn and the other, smaller in size but similar in style, is from ancient Kydonia (Archaeological Museum of Chania, Α 276) (Romeo 1998, 211–4, no. 74, pl. 25c; 213, n. 753). To these should also be added a third example from Crete and now in the Istanbul Archaeological Museum, although this sculpture lacks the column-shaped support under the shell (Mendel 1914, II, 303, no. 577; Romeo 1998, 212, n. 751).

Despite the presence of more than one copy of statue types on the island, there are no further data to support a better understanding of how markets operated for importing or producing and supplying Crete with works of sculpture. This is largely due to the rarity of sculptures or statue bases bearing signatures to indicate the origins of imported works and the activities of foreign artists on the island. The few inscribed examples suggest that artists from Paros and subsequently from Athens and Aphrodisias, as well as local sculptors, were active in Crete during the imperial period (Portale 1998, 273–4; Lagogianni-Georgarakos 2002, 35–6; Karanastasi 2012, 439–44; Milidakis and Papadaki, this volume).

The number of statues and portraits of Hadrian found on the island (Figs 8.7, 8.8, 8.9, Pl. 20) (Cavalieri and Jusseret 2009; Karanastasi 2012–2013, 339–42) indicate that some pieces were imported; the best examples are the emperor's statue from Hierapytna (Fig. 8.8) (Karanastasi 2012–2013, 323–57, 362–3, no. 12, pl. 6) and that found in the so-called *Villa Dionysos* at Knossos (Fig. 8.9) (Cavalieri and Jusseret 2009, 391–4, pls 48, 50.1; Karanastasi 2012–2013, 339–42,

363, no. 14, pls 7, 4–6). Other statues of the same type – the so-called Eastern Type (Karanastasi 2012–2013) – were rather locally made, like the headless cuirass statue of Hadrian found in Kissamos (Pl. 20) (Di Napoli 2010, 815; Karanastasi 2012–2013, 339–42, 363, no. 13, pls 7, 1–3), following the fashion rules dictated by the great artistic centres of the Roman world.

While there is no doubt about the existence of local workshops producing marble sculpture, the question about the possible existence of workshops for casting bronze sculptures remains open. Almost all bronze works have been lost to us, and no workshop remains for bronze casting in Roman times has yet been identified in Crete. In all likelihood, this is the result of the lack of relevant tradition in producing bronze statues in the Classical and Hellenistic periods and not the absence, or better still, the very limited presence of raw material on the island (Sanders 1982, 33; Brokalakis 2005, 48; Gallimore 2011, 464, n. 340).



*Figure 8.7 Portrait of Hadrian, of unknown provenience (Archaeological Museum of Herakleion, 341). German Archaeological Institute of Athens, D-DAI-ATH-1975-1127.*

Within this context, the only nearly intact bronze statue that has survived in Roman Crete is thus of special importance (Pl. 21). It is the so-called boy of Hierapytna, 1.40 m in total height, which was found buried deep in the sand, at a depth of more than 3 m, in the beach near the site of the ancient city (Raftopoulou 1975, 1–32, pls i–iii). This statue is dated to the early years of Augustus’ reign on the basis of the portrait of the youth. Given that it is undeniably a portrait statue, to which funerary use has been ascribed because of its proximity to a sarcophagus found nearby, the fact that a headless

marble copy of it has been located in a collection in Warsaw is remarkable (Hekler 1929, 62, no. 50, fig. 50; Raftopoulou 1975, 25–7, pls 14–15). The repetition itself should perhaps suggest caution on the interpretation of the Hierapytna figure as funerary, even though this phenomenon frequently occurs in examples of adults, as in the case of the Large and Small Herculaneum Women (see [Figs 8.22–8.24](#)) and the type of the *Palliatas* and its variations. It has also been argued that the bronze statue of the Hierapytna youth may have belonged to a ship's cargo, based on its findspot near the seashore (Arata 2005, 166, no. 37; Brokolakis 2011–2012, 235–6, no. CS167).





*Figure 8.8 Cuirass statue of Hadrian, from Hierapytna (Istanbul Archaeological Museum, 50). German Archaeological Institute of Istanbul, D-DAI-IST-64.111.*



Figure 8.9 Cuirass statue of Hadrian, from Knossos (Knossos, Villa Ariadne). Photo by H.-R. Goette.

In addition to bronze statues that no longer survive due to recycling or wear, sculptures of precious metal were also known in Crete, as evidenced by an inscription from Hierapytna mentioning 'eikonai' made of silver, which were ordered by a woman named Ago (IC III. iii.7; Harrison 1993, 250–3; Lagogianni-Georgarakos 2002, 17, 19, n. 39).

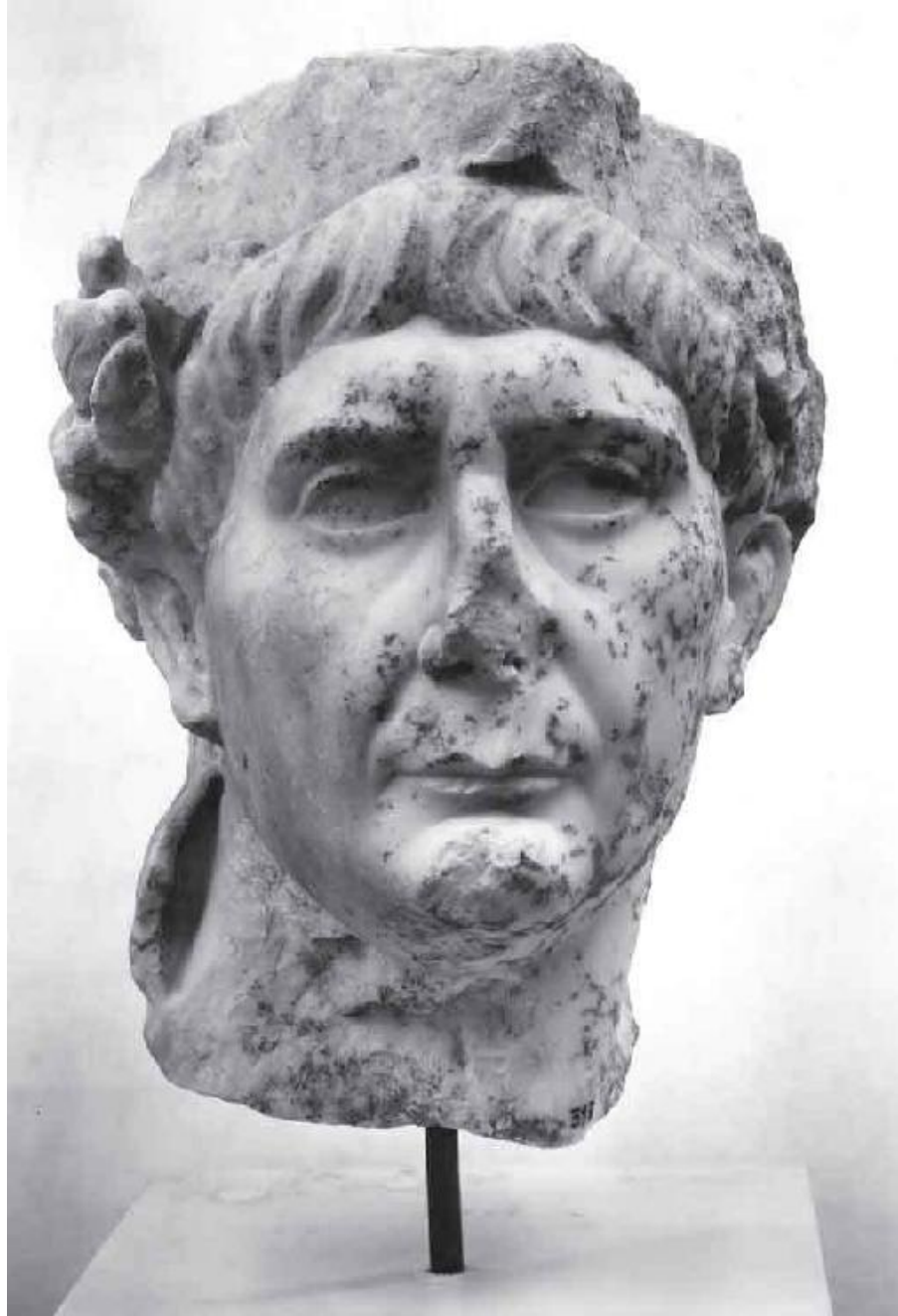
### Chronological distribution and iconography

The chronological distribution of Roman sculpture in Crete is, as expected, more easily traced in the portrait statues and heads than in those works that follow ideal types.

A general observation can be made for imperial portraits on their relatively limited numbers and about the emphasis on the periods of Augustus, the Julio-Claudian dynasty, and subsequently on the time of Hadrian (Lagogianni-Georgarakos 2002, 19–23). It is noteworthy that a full-size statue of the *togatus* type and the portrait of a similar statue of Caligula have been found in Gortyn (Boschung 1989, 107, no. 1, pls 1, 1–4; 109, no. 8, pls 8, 1–3, 41, 1–2; Lagogianni-Georgarakos 2002, 49–51, nos 4, 5, pls 4–7). This sculpture, for reasons unknown, survived destruction after the *damnatio memoriae* imposed on the represented emperor (Boschung 1989, 83; Varner 2004, 42–3). Equally worth mentioning is the absence of the Flavians among the surviving portraits (Sanders 1982, 48), in contrast to the later emperors Trajan and Hadrian, though this is, to a large extent, consistent with what was happening in the rest of the Graeco-Roman world. Female portraits of members of the various imperial families are also fairly limited. Except for a portrait of Livia, wife of Augustus (Portale 1998, 304–10, no. 4, pl. 39 [Livia?]; Lagogianni-Georgarakos 2002, 70–1, no. 35, pl. 39), most attributions to Roman empresses remain doubtful (Lagogianni-Georgarakos 2002, no. 40, pl. 43; 75, no. 42, pl. 45; 77, no. 47, pl. 52; 80, no. 53, pl. 56; 81, no. 54, pl. 57).

Of the several statues found in Lyttos to honour Trajan (Fig. 8.10), as attested in inscriptions (Højte 2005, 391–2, nos 125–37), a sole portrait head has been preserved, which depicts him with a laurel wreath (Lagogianni-Georgarakos 2002, 51–2, no. 6, pl. 8). The particularly frequent presence of Hadrian in honorary statues wearing the cuirass (Figs 8.8, 8.9, Pl. 20) and portraits like that in the Herakleion Museum (Fig. 8.7) (Lagogianni-Georgarakos 2002, 53–4,

no. 9, pl. 10) has been often noted (Beschi 1974; Karanastasi 2004; Cavalieri and Jusseret 2009; Karanastasi 2012–2013, 339–42). This prevalence is most certainly associated with the philhellene emperor's decisive role in the history of the island as a result of the political and historical circumstances during his reign (Karanastasi 2012–2013, 339–57). The representation of the subsequent emperors is, until the beginning of the 3rd century AD, rare and limited to a portrait of Marcus Aurelius and to one of Caracalla, respectively (Portale 1998, 364–70, no. 17, pl. xlix; 406–10, no. 23, pl. lvi; 411–20, no. 24, pl. lvii; Lagogianni-Georgarakos 2002, 54–6, nos 10, 11, pls 11, 12). Finally, to the latest examples may be classified two portraits that have been attributed to Constantine the Great or to his reign, one from Kydonia (L'Orange 1984, 69, 121, pl. 48c, after AD 324; Vermeule 1968, 354, 516, n. 1, fig. 177; Portale 1998, 426, nn. 904, 905; Prusac 2011, 147–48, cat. 310) and one from Gortyn (Portale 1998, 424–30, no. 26, pl. 59; Lagogianni-Georgarakos 2002, 70, no. 33, pl. 38). These are, however, the result of the re-carving of previous works in local workshops and are of low quality (Prusac 2011).



*Figure 8.10 Portrait of Trajan, from Lyttos (Archaeological Museum of Herakleion, 317). Photo by E. Feiler, German Archaeological Institute of Athens, D-DAI-ATHEN 1973/770.*



*Figure 8.11 Male portrait head, from Chersonisos (Archaeological Museum of Herakleion, 632). German Archaeological Institute of Athens, D-DAI-ATH-1975-1173.*



*Figure 8.12 Male portrait head, left side, from Chersonisos (Archaeological Museum of Herakleion, 632). German Archaeological Institute of Athens D-DAI-ATH-1975-1174.*

The cuirass statue had been the most popular portrait type in imperial iconography since the time of Augustus (Karanastasi 2004; 2012–2013). Still, a considerable number of members of the imperial family wearing the *toga capite velato* are attested in Gortyn but are limited to the early imperial period and the Julio-Claudian dynasty

(Lagogianni-Georgarakos 2002, nos 1–5, pls 1–7). In contrast, there is no evidence thus far for the use of ‘heroic nude’ types depicting Roman emperors in Crete (cf., however, Romeo 1998, 129–31 no. 26, pl. xc–d).



*Figure 8.13 Female portrait, of unknown provenience (Archaeological Museum of Herakleion, 729). German Archaeological Institute of Athens, D-DAI-ATH-1975-1177.*





*Figure 8.14 Female portrait, right side, of unknown provenience (Archaeological Museum of Herakleion, 729). German Archaeological Institute of Athens, D-DAI-ATH-1975-1176.*

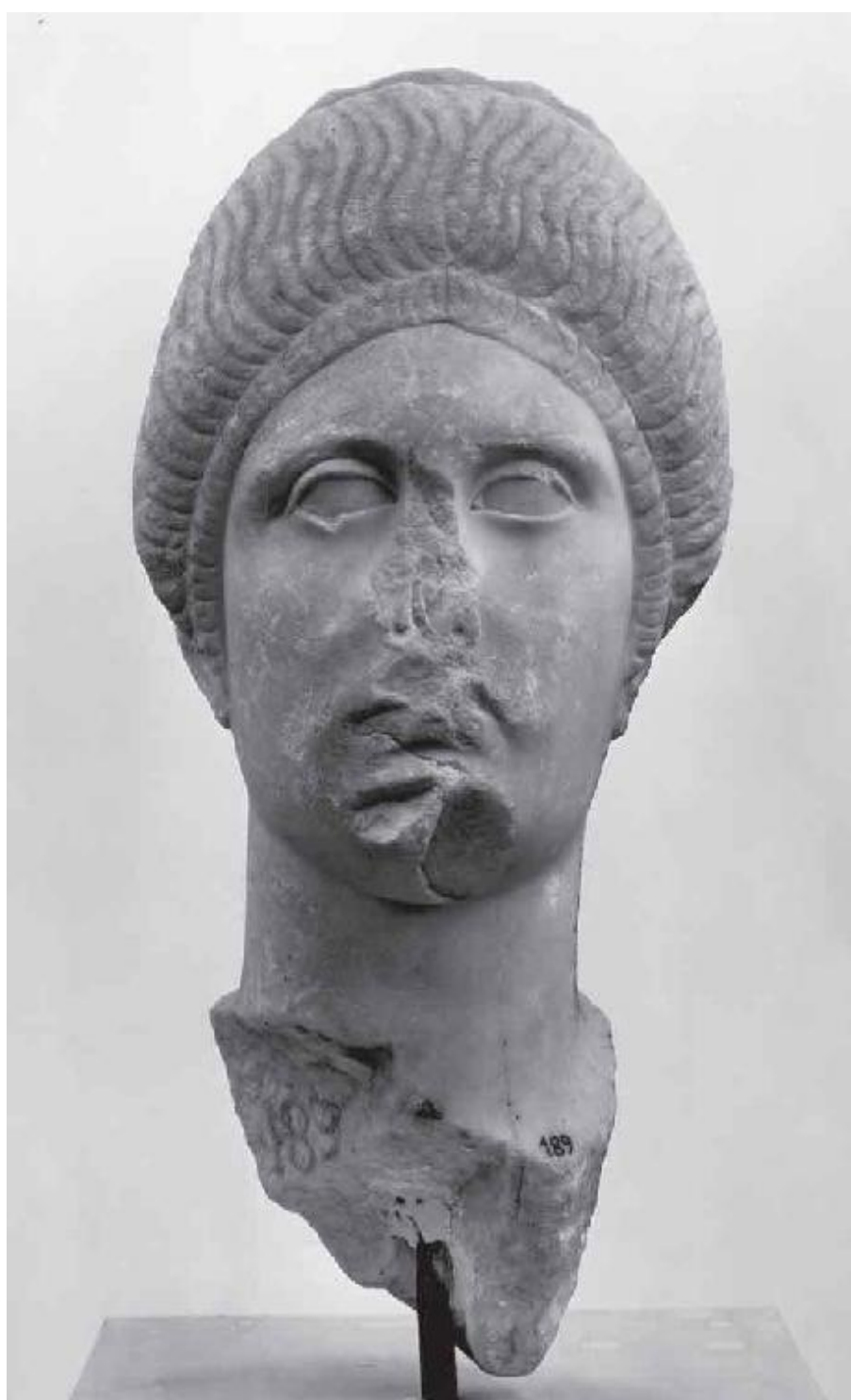
Lagogianni-Georgarakos (2002, 29, n. 145) has already determined that the analogy between male and female representations in private portrait statues and heads is much more gender balanced as they appear in almost equal numbers, in contrast to the imperial portraits. In any case, portraits of both categories strictly follow the fashion rules of their times dictated either by imperial portrayals or other preferences of the Roman elite (Figs 8.13–8.19, 8.22–24) (Lagogianni-Georgarakos 2002, no. 47, pl. 52; 56, pl. 59; 65, pl. 68). Besides, members of the local aristocracy, both indigenous and foreign settlers,

are most probably depicted in the private portraits discovered at sites on Crete.

Portraits of private citizens appeared since the early imperial times under the Julio-Claudian dynasty (Figs 8.11–8.14; Lagogianni-Georgarakos 2002, nos 16, 38, 39, pls 17, 41–2). Their numbers increased considerably, however, during the reign of the Flavians onwards and steadily progressed until the end of the 2nd into perhaps the early 3rd century AD, when the production of ideal sculptures must have also ceased (Figs 8.15–8.19, 8.22–8.24). Still, there have been examples of later date, either portraits resulting from the recarving of earlier works or original creations imported from some large artistic centre of late antiquity. The latter include a male representation of the period of the Tetrarchs in the Herakleion Museum (L'Orange 1984, 104; Portale 1998, 396–9, no. 21, pl. 54; Lagogianni-Georgarakos 2002, no. 31, pl. 36), the abovementioned two portraits attributed to Constantine the Great or to his reign (L'Orange 1984, 69, 121, pl. 48c; Portale 1998, 426, nn. 904, 905; 424–9, no. 26, pl. 59; Lagogianni-Georgarakos 2002; 70, no. 33, pl. 38), and a female bust of exceptional quality excavated in Kydonia and dated probably to the early 5th century AD (Figs 8.20 and 8.21) (Markoulaki 1982, 376, pl. 265a; Stavridis 1985, 108, pls 13, 19.3; Frangakis 2011; Tzanakaki 2013; also Schade 2003, 208–10, cat. I, 49, pl. 56). It is unquestionably an import, possibly from a workshop in Constantinople of a late date, when any demands for portrait sculptures had been already limited or even ceased.



*Figure 8.15 Male portrait bust, from Knossos (Archaeological Museum of Herakleion, 503). German Archaeological Institute of Athens, D-DAI-ATH-1975-1122.*



*Figure 8.16 Female portrait, of unknown provenience (Archaeological Museum of Herakleion, 189). German Archaeological Institute of Athens,*

Busts were not rare and apparently more common in the representations of private citizens (Lagogianni-Georgarakos 2002, 30, n. 153, pls 20, 28, 31, 35, 61). Some in particular, like one from Chania (Stavridis 1985, 107, pls 14, 2–4) and another from Knossos ([Fig. 8.15](#)) (Waywell 1973; Lagogianni-Georgarakos 2002, 60–1, no. 18, pls 19, 20) were produced in local workshops and exhibit similarities in the shape of the bust with examples found in Asia Minor (Inan and Alföldi-Rosenbaum 1979, 160–2, no. 114, pl. 93; 264, no. 247, pl. 176; 267, no. 251, pl. 179). The plaster busts from a residence in Knossos demonstrate that this category was more common than the actual surviving material would allow one to suppose. Many fragments of plaster figurines and bone tools came to light in an adjacent room of the same residence, leading to the interpretation of the portrait busts as display pieces advertising the artist's creations (Waywell 1992; Flower 1996; Frederiksen 2010).



*Figure 8.17 Female portrait, right side, of unknown provenience (Archaeological Museum of Herakleion, 189). German Archaeological*



*Figure 8.18 Female portrait head, from Knossos (Archaeological Museum of Herakleion, 278). German Archaeological Institute of Athens, D-DAI-ATH-1975-1108.*





Figure 8.19 Female portrait head, right view, from Knossos (Archaeological Museum of Herakleion, 278). German Archaeological Institute of Athens, D-DAI-ATH-1975-1106.

The usual bodies for female portrait statues as a rule were types like the Large and Small Herculaneum Women (Figs. 8.22, 8.23, 8.24) and the *Pudicitia*, while the *Palliatu*s type was selected for male representations (Lagogianni-Georgarakos 2002, 95–8, 100, nos 79–84, 88, pls 81–5; Karanastasi 2012, 437, n. 17, fig. 5). Statues of men in the Roman toga are not unknown, yet they appear in the iconography of individuals after the beginning of the 2nd century AD. Most examples come from Gortyn (Lagogianni-Georgarakos 2002, nos 75, 77, 78, 85–7), while individual examples have been found in Knossos (Lagogianni-Georgarakos 2002, 95, no. 76, pl. 76; 92, no. 73, pl. 76), Hierapytna (Mendel 1914, III, no. 1105; Papadakis 1986, 48–51), and Kydonia (Mendel 1914, III, no. 1107; Goette 1990, 141, no. Ca 8, pl. 30, 6).

Except for one unpublished example from Gortyn (Di Vita 2010, 90–1, fig. 108a–b.), the only ‘heroic nude’ statue connected with a



portrait head was found during salvage excavations in Chersonisos. This is rendered as the *Hermes Richelieu*, a sculpture type widely used in the Greek world to portray deceased individuals (Lagogianni-Georgarakos 2002, 32, n. 168, 169; Gratziou 2010, 227–37, no. 7.41, pls 115–8). The statue is dated to the late period of the Julio-Claudian reign, but its head was reworked during the Flavian era; thus, the person initially portrayed and whether he was a private citizen or perhaps a young member of the imperial family remain unclear.

### **Funerary contexts**

It is noteworthy that none of these statues had a confirmed funerary function, but this statement is of relative significance since most pieces are chance finds and do not come from systematic excavations. The funerary reliefs of the imperial period discovered on Crete are similarly few and they too are rarely found in cemeteries; they, rather, usually come from secondary use, mostly as building material (Sporn 2012a). Their majority indicates influences from the Cyclades and Asia Minor, while certain ‘special’ Cretan elements are not easily identified or traced. These are generally works in small scale and of medium quality, created perhaps to immortalize members of the middle or lower social classes and occasionally foreigners (Sporn 2012a, 465).



*Figure 8.20 Female portrait bust, from Kydonia (Archaeological Museum of Chania, Λ3176). Photo by St. Alexandrou, by the permission of S. Markoulaki, KE' Ephorate of Prehistoric and Classical Antiquities.*

The politically and economically privileged people of Crete commissioned lavish grave monuments that usually demonstrate influences from the west as well as Asia Minor (Grammatikaki 2004; Vasilakis 2004). The latter is evident in an impressive two-storey funerary structure found at Aptera with an associated relief plaque broken in two pieces next to its northeast front corner (Fig. 8.25). This relief depicts a couple presented frontally as busts (Niniou-Kindeli and Christodoulakos 2004, 316–9; Karanastasi 2011; 2012, 447–8, n. 77, fig. 20). The hairstyle of those portrayed and the busts' form date the monument to the time of Trajan.

## **Concluding remarks**

This examination of Roman sculpture in Crete has once more shown it to be an important means of comprehending the social, economic, and cultural life on the island during the imperial period. The number of works either imported from significant artistic centres, such as Athens or Asia Minor, or created in local workshops is remarkable, though many sculptures still remain insufficiently known or unpublished. To this extent, this short presentation permits some general observations, including the definition of elements that might be considered as 'Cretan:' the almost stereotypical repetition of the same iconographic types, as already mentioned for the series of copies of the so called Aspasia and other ideal sculptural types and seen particularly in locally made sculptures; and the relative sloppiness in rendering the body proportions and treating the surface of the final product, as noted, for example, in the Artemis from Lappa (Fig. 8.6) and the Athena from Selino in the Louvre (Pl. 19) (Lagogianni-Georgarakos 2002, 42–3). These features are, of course, not exclusively Cretan and occur also in other regional styles (Smith 2008; 2009; 2013; D'Andria and Romeo 2011; Nogales and Rodà 2011). It is not possible at present, however, to differentiate more closely sculptures that were produced in local workshops in Roman Crete, either by their style or by their material, which is in most cases marble imported from other regions of the empire, such as Attica or Asia Minor.

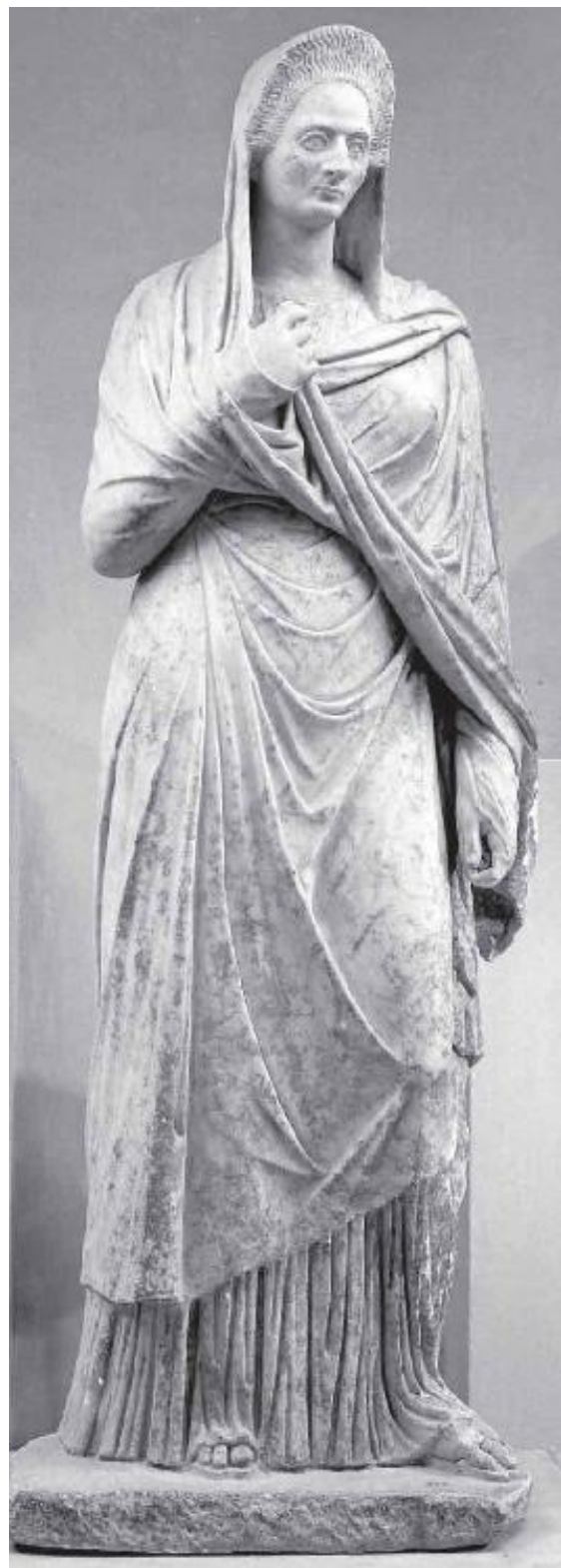


*Figure 8.21 Female portrait bust, left side, from Kydonia (Archaeological Museum of Chania, Λ3176). Photo by St Alexandrou, by the permission of S. Markoulaki, KE' Ephorate of Prehistoric and Classical Antiquities.*



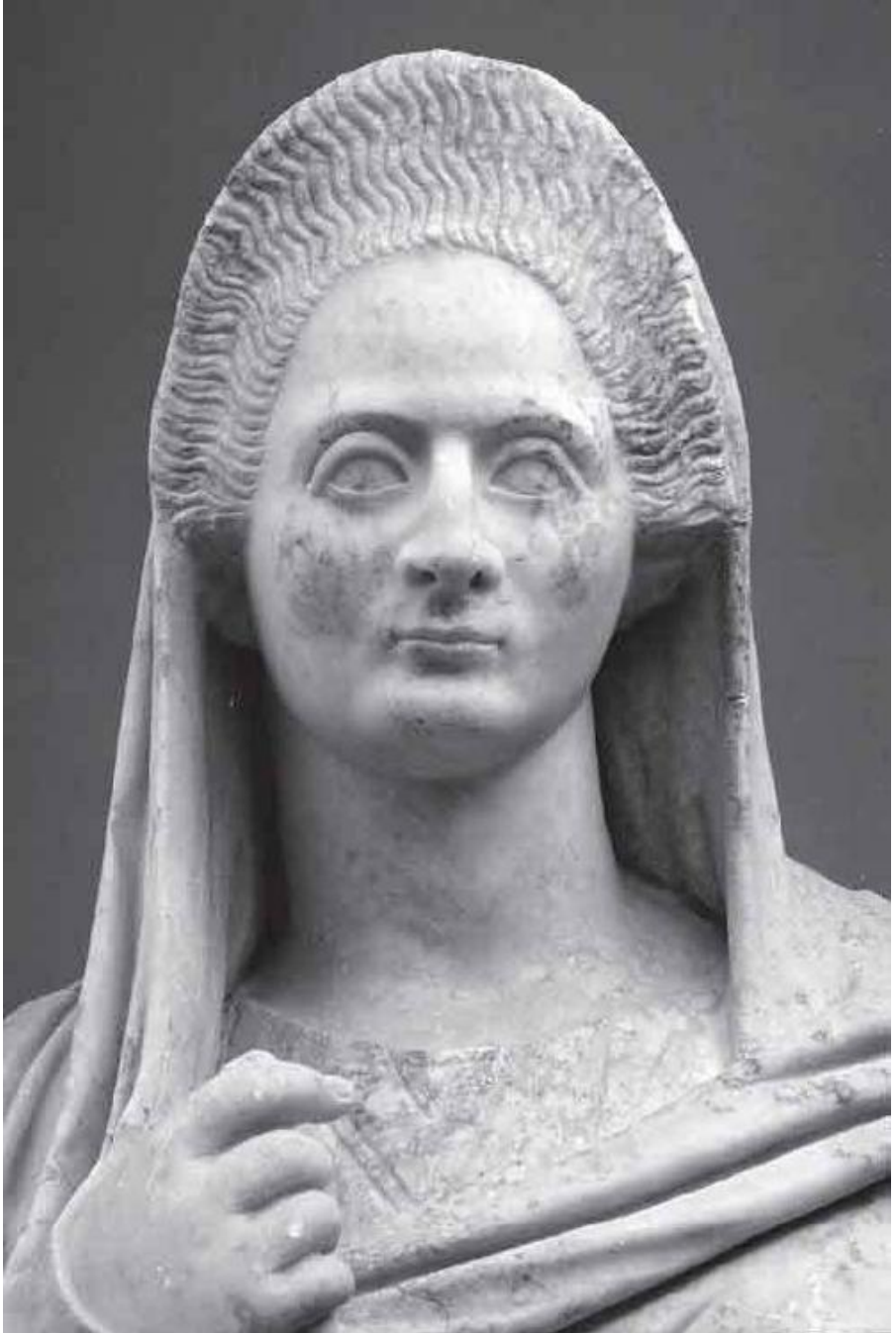
*Figure 8.22 Female portrait statue as Small Herculaneum Woman, from Aptera (Istanbul Museum, 27T). German Archaeological Institute Istanbul, D-DAI-IST-R 35.464.*

The chronology of the works shows that portrait sculptures, both imperial and private, form the group with the widest range, lasting from the time after the island's Roman conquest until late antiquity. On the other hand, ideal sculpture appears to have been more popular in the period from the end of the 1st to the end of 2nd/beginning of 3rd century AD. However, this is not only a Cretan phenomenon, but rather concerns greater changes occurring in Roman society that affected all production of ideal sculpture throughout the empire.





*Figure 8.23 Female portrait statue as Large Herculaneum Woman, from Chersonisos (Archaeological Museum of Herakleion, 334). German Archaeological Institute of Athens, D-DAI-ATH-1975-1205.*



*Figure 8.24 Female portrait statue as Large Herculaneum Woman, head, from Chersonisos (Archaeological Museum of Herakleion, 334). German*



It is worth noting for Crete in particular that although the number of flourishing cities decreased in the Roman era, compared to the Hellenistic period, there is an increased distribution of sculptures through Crete in most larger urban centres as well as in sanctuaries that had gained a wider reputation, such as the Diktynnaion in western Crete (Sanders 1982, 84–5; Sporn 2001; Bechert 2011, 78–9, fig. 85; Karanastasi 2012, 441, fig. 10; Chaniotis 2013, 61–3) and the Asklepieion at Lebena in the south of the island (Melfi 2009). Finally, the role of the coastal cities and harbours during the imperial period, such as Hierapytna, Chersonisos, and Kissamos, appears to have been strengthened, and they become notably important. They served and ensured communications between the local aristocracy and the major economic, artistic and cultural centres all over the Roman Empire.

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*Figure 8.25 Plate from funerary monument in Aptera with depiction of a couple (Archaeological Museum of Chania, 1881α+β). Photo by E. Eliadis, by the permission of V. Niniou-Kindeli, KE' Ephorate of Prehistoric and Classical Antiquities.*

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## An Attic marble table support (τραπεζοφόρον) in relief from Roman Kissamos: preliminary remarks

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*To Stavroula Markoulaki*

Μία λίαν ἐνδιαφέρουσα μαρμαρίνη πλαξ, ἴσως στήριγμα τραπέζης, καταλῆγον εἰς λεοντοπόδας, με ὠραίαν παράστασιν κάπρου πρὸ δένδρου, ἐδηλώθη καὶ κατετέθη εἰς τὴν Συλλογὴν Καστελλίου Κισάμου. (Platon 1947, 637)

With these words, Professor Nikolaos Platon describes the marble table support (τραπεζοφόρον) presented in this article (Bakalakis 1948, 42, n. 10; Tiveriou 1993, 17–8, n. 5) (Pl. 22, Fig. 9.1). Discovered by chance almost six decades ago near the site of the so-called Health Center of Kissamos, as reported by the local resident N. Koutsounakis, it is currently displayed in the ‘Hall of Graeco-Roman Villas’ in the local Archaeological Museum (Markoulaki 2012, 580, inventory number Λ199). Its maximum preserved height is 0.795 m, whilst its length varies from 0.945 m at the top to 1.165 m at the base. The thickness of the upper portion on the left side is 0.14 m, and the lower thickness measures 0.145 m. Experienced marble craftsmen Manolis Giannidakis and Phillipos Chatzisavvas recognize that its white finegrained marble with its faint gray veining comes from the famous Attic marble quarries of ‘Dionysus’ on mount Pendelikon.

The artefact is classified as Richter’s Type 5 (Richter 1926, 71–2) and Cohon’s Type I (Cohon 1984, 20–46): a table with a rectangular top resting on two solid marble slabs placed at each end, respectively (Tiverios 2001, 159). The front panel, worn in places, rests on a narrow plinth and is defined by an elegant banded frame. Both narrow sides bear decorative features that recall the real nails used in the wooden prototypes, whilst their lion foot ending suggests that the table was not placed against a wall (Bakalakis 1948, 13). The flat slab of the table (ἄβαξ), probably also made of marble, would have been attached to juxtaposed rectangular projections on its upper long side. The upper section of the front panel is ornamented with two relief helix links whose lower end displays an elegant leaf-shaped ornament, a simplified version of the richer plant adornment usually present in

earlier examples. In Classical and Hellenistic table supports of this specific type, these helix links are set in the angle formed between the frame of the flat top and a horizontal raised band that divides the facade of the panel into two zones. These scrolls are merely decorative elements on the marble table supports, whilst on their wooden prototypes they could have played a functional role as connectors between the various components of the furniture (Bakalakis 1948, 14–5); it is also possible, however, that such helix links were purely decorative as well on the wooden tables (Tiverios 2001, 159–60). A large, thick-trunked tree with abundant foliage and fruit occupies the space between these scrolls, emphasizing the natural environment of the robust boar represented in the foreground and facing to the right (Papadaki and Galanaki 2012). This boar is rendered with schematic anatomical details that reinforce the aggressive nature of the husky animal and emphasize the multiple difficulties of its capture. The artistic representation of hunted animals, usually as part of broader hunting scenes (Leroi-Gourhan 1993; Cauvin 2004; Guthrie 2005), is a complex topic that has led to many interpretations (e.g., Anderson 1982; Fleischer 1983; Saatsoglou-Paliadeli 2004; Markoulaki 2011; Galanaki, forthcoming). Animals such as the bull, the lion, the ibex, and the boar are often depicted in various art forms in many ancient societies, indicative of their economic importance as well as the ideologies that enhance and sustain the prestige of their ‘elites’ (Dalby 2001, 44; Cauvin 2004; Saatsoglou-Paliadeli 2004, 58–161). Furthermore, the connection between meat eating, its related activities, and the sense of absolute sovereignty of mankind over nature explains, at least to some extent, not only why meat acts as a means of demonstrating power and is a distinctive symbol of the ‘elite,’ but also why the lower social strata did not have access to the same amount of meat as their more powerful counterparts (Fiddes 1991; 1994).

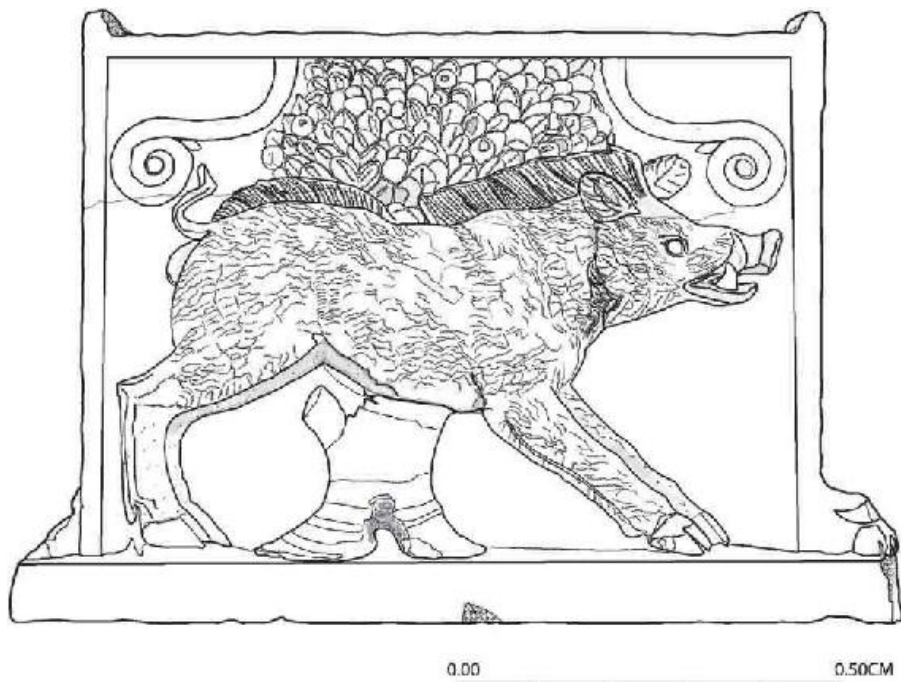


Figure 9.1 Representation of the main side of the table support. Drawing by A. Stamathioudaki-Pappa.

The table support from Kissamos, together with its lost counterpart (πάρισσον), which was perhaps decorated with another but related theme, carried the top of a luxurious two-footed table, which probably adorned a hall or even the garden of a luxurious Roman villa (Jashemski 1979, I, 89–98; II, 138–9, 213–5, Grimal *et al.* 1992, fig. 39; Wallace-Hadrill 1994, 47, 49), such as those excavated in Roman Kissamos (Markoulaki 2009; 2011); its precise findspot remains unfortunately unknown. After all, a sturdy marble table decorated with themes appropriate to its use would have been a status symbol for its obviously affluent owner, while at the same time enhancing the pleasant atmosphere of the ‘*Greco more*’ banquets (συνπόσια), the latter being a widespread socio-political phenomenon aimed at promoting social exposure and political recognition of the Roman elite (Ackerman 1993; Dunbabin 1996; 1998; 2003; König 2012, 17, 20–3). Pertinent too is the role of the villas themselves where the banquets were held. Their design, of Hellenistic origins, enabled the theatrical display as well as the socio-political aspirations of their wealthy owners (Wallace-Hadrill 1988; Bober 1999, 180–1; Nielsen 2001; Purcell 2001; Laurence 2009, 91; Zarmakoupi 2010).

The Kissamos table support is of a notably conservative type that

had been in continuous use from the 5th century BC until the 3rd century AD (Richter 1926, 71–2; Cohon 1984, 20–46). This broad chronological frame as well as the totally absence of any excavation data unfortunately does not provide a secure date for this random find, but since Kissamos was thriving during the 2nd century AD, it might belong to this era, a suggestion supported enough by the careful observation of its morphological features in relation to earlier and later examples. First of all, the relief corner helix links of the Classical and Hellenistic examples are usually rendered with richer floral decoration, whilst the banded frame of the panel and the narrow side pilasters ending in lion feet can be found in later examples. These features, which may have been no more than mere decorative imitations of wooden and metal prototypes, seem to decline gradually during the Roman period. Second, the Kissamos' table support displays no fluting on its narrow sides, and third, the transverse band that normally divides the main decorative panel of Classical and Hellenistic examples is lacking in this specific Cretan piece, thus allowing the composition to be spread across its entire surface. Although this last aspect can also be seen in late-Hellenistic table supports of this type, the dominant decorative compositions of this period are mainly floral ornaments (Cohon 1984, 19–20), which remain rather limited during Roman imperial times, when they co-exist with a range of animal figures. A typical example is presented by a table support from House Vecchia in Rome dating to the 1st–2nd centuries AD, which presents a bird on an altar or stele flanked by two laurel trees (Brandizzi Vittucci 1982, 83–4, fig. 139; Cohon 1984, 210). The completely schematized helix links of the House Vecchia support are set vertically, leaning alongside the purely decorative frame, while their usual floral ornament is absent. Moreover, the supports of a re-used reading table found in the main room of the Sardis Synagogue, dating from the middle of the 2nd to the end of 3rd century AD (Magness 2005, 449, 451), can be considered an indirect parallel to Kissamos example. These roughly carved table supports depict in high relief an open-winged eagle holding a thunderbolt in its claws (Magness 2005, 449). The helix links are omitted but the grooved pilasters ending in schematically carved lion feet have survived.

The relief imagery on the Kissamos' table support depicts an iconographic tradition lasting from the late-Archaic to Roman times that stands as an inexhaustible source of inspiration for both lyric and tragic poetry alongside other Greek art forms, mostly inspired by the

popular myth of the Calydonian Boar Hunt (*LIMC* 6, s.v. Meleagros, 414 [Woodford and Krauskopf]). An early version of this theme is depicted on the neck of the so-called François Vase (Beazley 1964, 26, 32–3, pl. 11:1), whilst later boar hunting scenes adorn a black-figure band kylix with the signatures of Archikles and Glaukytes, now in Munich (Antikensammlung 2243) (Boardman 1995 [1974], 73–4, fig. 116:1) and a metope on the Sikyonion Treasury at Delphi (Reinach 1909, 137, fig. 2; Boardman 2001 [1978], 188–9, 230). A painting attributed to Polygnotos or Aristophon is reported to depict Agkaios' lethal injury by a wild boar (Pliny *HN* 35.138; Kleiner 1972, 9–10, 15–9). One can additionally cite here the well-known sculptures by Scopas in the east pediment of the temple of Athena Alea at Tegea (Boardman 1995, 25), the red-figure kylix by the Antiphon Painter, now in Baltimore (Walters 48.2115; Boardman 1985 [1975], 156, fig. 240), the so-called Sidon or Alexander sarcophagus (Fleischer 1983), and the painted frieze on the facade of Tomb II of Philip in Macedonia (Saatsoglou-Paliadeli 2004).

Moreover, the boar is represented in ancient Greek art not only in hunting scenes, but also in a broader thematic range. The capture and presentation of the Erymanthian boar to Eurystheus as one of the Labors of Herakles is also relevant, as depicted on a black-figure oinochoe by the Andokides Painter in the British Museum (B492) (Boardman 1995, fig. 166), on a red-figure kylix signed by Skythes in Rome (Villa Giulia) (Boardman 1985 [1975], 72, fig. 89), and on the metopes of the temples of Zeus at Olympia and of Hephaestus in Athens; the northern metopes of the latter also depict Theseus fighting against the wild Krommyonian Sow (Reinach 1909, 56; Koch 1955, 118–9, 124, pls 19:iv, 26:I; Boardman 2002 [1985], 46, fig. 22.7, 167, fig. 111.4). Other depictions of boars are: a) the fight between a lion and a boar painted on the black-figure band kylix by the Neandros Painter, now in Boston (61.1073) (Boardman 1995 [1974], 74, fig. 120), a relief on a kouros base retrieved from the Themistoclean Wall (Boardman 2001 [1978], 200, fig. 243), and in a later Hellenistic mosaic floor from Alexandria (Pollitt 1994, 173, fig. 136); b) simple depictions of an attacking boar, such as that on the frieze of the Temple of Athena at Assos, in the Troad (Boardman 2001 [1978], 193, 200, fig. 216:13; 19, fig. 216.4); and c) a decorative element on a copper lebes or tripod of 480 BC, which was located at Ancona, Italy and has stylistic affinities with works found at Dodona (Vokotopoulou 1997, 105, 241, fig. 92).



The boar itself is represented differently throughout time. In the Archaic and Classical periods, it is usually depicted in the standard profile pose with its head down (κυρίσσων κάρπος), and the artistic emphasis is on its clear silhouette and parts as well as a smooth fleece. In later examples, though, there can be noted a gradual trend towards realism, conveyed through the shading of details and particularly in the rendering of the hair. This further intensified during the Hellenistic and Roman periods and results in more sophisticated poses, like those of the Hellenistic boars in the Uffizi gallery in Florence (Richter 1950, 113, 465, figs 358, 359) and on the sarcophagus of Seleucia in the Imperial Ottoman Museum, Constantinople, dated c. AD 250 (Strzygowski 1901, 46–9, fig. 16; Mendel 1966, 88–95).

The boar on the table support from Kissamos clearly derives from iconographical motifs of the Classical period that establish the familiar representation of the animal with erect bristles and the head slightly raised in an attack position. This pose is also seen in Attic red-figure vase painting of the middle and second half of the 5th century BC (Durand-Schnapp 1984, 94) on, for example, a dinos of 450 BC by Agrigento Painter (Kleiner 1972, 9–10, 19, pl. 2:1–3) in the Athens National Museum (Inv. No. 1489), and on a kylix of 440–430 BC by the Kodros Painter, now in Berlin (Antikensammlung F2538) (*LIMC* 6, s.v. Meleagros, 417, no. 24, pl. 210 [Woodford and Krauskopf]). It is possible that the earlier iconographic parallels for our boar, especially its stance and body proportions, derive from the 4th century BC. Parallels can be seen on the marble funerary lekythos of Diopieithes (Fig. 9.2) in the Athens National Archaeological Museum (Inv. No. U352) (Clairmont 1993, 409, no. 2.372c; Zlotogorska 1997, 40, 149, no. 62) as well as in one of the two representations of boar-hunting scenes on the so-called Sarcophagus of the Mourners from Sidon of 367–358 BC. The last example has a tree in its background, perhaps as an early attempt at landscaping the relief scene (Fleischer 1983, 30–1, 63–5, pls 12:2, 14:2). Finally, on the reverse of the silver *triovolon* of the Aetolian League (220–189 BC), a similar allusion to the narrative of hunting depicts only the Calydonian Boar Hunt. This resembles the boar of our support in the tense stance of the front legs and the head position, as well as in the depiction of the coat and mane (Oikonomidou 1996, 190–1, 249, cat. 176).



Figure 9.2 The boar hunting scene, on the lekythos of Diopieithes (Athens, National Archaeological Museum, Θ352). Photo by K. Valtin von Eickstedt, © Hellenic Ministry of Culture and Sports/Archaeological Receipts Fund.

During Roman times, the number of renderings of the theme grows, and, though still inspired by Greek mythology, the boar is shown in various poses and compositions (*LIMC* 6, s.v. Meleagros, 426–7, nos 117–27, pls 220–2 [Woodford and Krauskopf]). Examples include reliefs showing boars dragging the chariot of Eros, Erotes chasing boars (Reinach 1909, 367:4; 1912, II, 99:1), a boar under attack by one of the Hyades (Υἷδαί), apparently in revenge for the death of their brother Hyas (Reinach 1909, 174:3; Grimal 1991, 668), a boar as the prey of Artemis (Reinach 1909, 354:3), or as a decorative element on the side of an altar (Reinach 1912, II, 490:6). Depictions of actual hunting also occur in which the boar emerges from a tree cavity or is shown being chased (Reinach 1909, 387, 250:1). On the metal skyphos from the Boscoreale Treasure, the animal is seated among food and kitchenware (Reinach 1909, 89:3). At the same time, Meleager and the Calydonian Boar Hunt emerge as a particularly popular theme, mainly gracing marble sarcophagi from the early Antonine period (*LIMC* 6, s.v. Meleagros, 433–5, nos 115–24, pls 219–21 [Woodford and Krauskopf]; Koch *et al.* 1975). The wide-ranging popularity of this theme for sarcophagus decoration is also observed on Crete: an Attic sarcophagus fragment of the first half of the 3rd century AD found at Lissos displays the motif (Katakis 2012, 419–23).

The boar of Kissamos, therefore, is not a product of innovation in either its style or composition, but repeats well-established iconographic elements of the Classical past. This tendency is found in other plastic works of this period in Crete; for example, the Peplophoros statue exhibited in the Herakleion Archaeological Museum, which also comes from Kissamos (Karanastasi 2012, 437–9; this volume). Moreover, the apparent Attic origin of its marble, the conservative character of its composition, and primarily the classicizing rendering of the iconographic type of the depicted animal, all lead us towards Attica of the 2nd century AD. This period, especially during the reign of Hadrian and until the third quarter of the 3rd century AD, is marked by a keen interest in the products of Attic sculptural workshops that followed the artistic standards of the past or were inspired by them (Tiveriou 1993, 210–3), a style also known as Neo-Attic (Fuchs 1959; Pollitt 1994, 221–6, Cain and Dräger

1994). The increase in demand for copies resulted in the establishment of large sculpture workshops in Attica employing numerous craftsmen. The Neo-Attic reliefs of Piraeus are also similar products of mass production from these workshops, even though they never reached their destination. Alongside the copies and Neo-Attic creations, this period is marked as well by a systematic production by the same Attic workshops of marble sarcophagi and one-legged table supports with plastic decoration, all showing significant compositional and stylistic similarities (Tiveriou 1993, 213–22). These similarities imply at least a common workshop origin, and it is perhaps not a coincidence that the most precise iconographic parallel for the Kissamos boar is identified in the Calydonian Boar Hunt scene on the sarcophagus A1186 in the National Archaeological Museum in Athens (Pl. 23). Although found in the city of Patras, this sarcophagus is thought to have been produced in an Attic workshop between AD 150–170 (Kaltsas 2002, 350), and the table support of Kissamos should be considered as a product of these particular circumstances; its features clearly indicate an Attic workshop of the 2nd century AD. Recent research is increasingly demonstrating a lasting and close relationship between Crete and Attic workshops during the imperial period (Karanastasi 2012, 439–41; Katakis 2012), and, moreover, the heyday of Kissamos is placed in this specific period, when its luxury villas were adorned with sumptuous mosaics (Markoulaki 2011) and other elements of interior decoration. It is certainly significant that two episodes of boar hunting in a 3rd century AD mosaic floor from Kissamos appear to be part of a larger composition depicting a hunting scene conducted by Erotes, the central theme of which is the triumph of Dionysos. In one case, in a natural landscape denoted by a tree, the wild animal is attacked by dogs, while in another instance it is attacked by Erotes, one of whom is depicted as a horseman (Markoulaki 2011, 387–9, 391, 393–5, figs 2, 9, 12). Thematic parallels for this particular hunt are provided, among others, by a relief from Aphrodisias (Reinach 1912, II, 99:11) and in the decoration of a sarcophagus in the Cathedral of Bieda dating to AD 200 (Figs 9.3 and 9.4) (Reinach 1912, III, 7:1–3; *LIMC* 1, s.v. Adonis, 227, no. 39d, pl. 167 [Servais-Soyes]). Here as well, the boar is represented in front or behind a tree, respectively. The sarcophagus of Bieda also depicts the death of Adonis by a boar, a theme also much loved on Roman sarcophagi. This last image brings to mind the myth concerning the birth of this deity and specifically the transformation by Aphrodite of his mother, Smyrna or Myrra, into the myrrh tree in

order to be redeemed from the remorse of her incest with her own father. Legend states that after ten months of gestation, her father opened the trunk of the tree with his sword so that Adonis could be born, while another version of the myth, preserved by Servius, the Commentator of Virgil, states that a boar opened the tree with its tusks to release the infant (Grimal 1991, 40–2; *RE*, s.v. Adonis, 391):

*In aborem versa est, quem intra uterum habuerat etiam in corticeretineret, Percussa, ut quidam volunt, patris gladio ut quidam, ab apro, parvulum edidit, quem educatum Nymphae Adonem appellaverunt.* (Serv. 5.72; Stocker and Travis 1965, 493)



Figure 9.3 Drawing of the narrow side of the sarcophagus, in the Cathedral of Bieda. From Reinach 1912 III, 7:2.

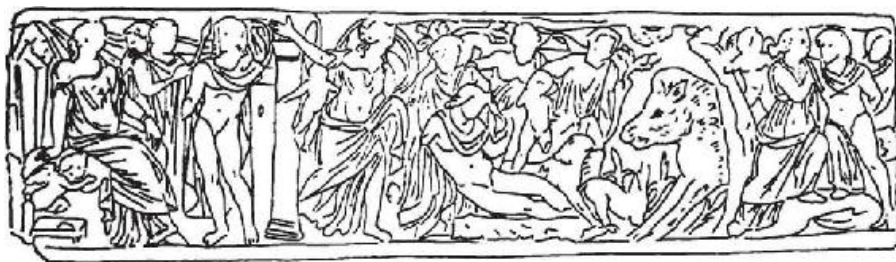


Figure 9.4 Drawing of the narrow side of the sarcophagus, in the Cathedral of Bieda. From Reinach 1912 III, 7:1.

In this way, the boar marks the beginning and the end of the lifecycle of this particular deity. Also pertinent is Theocritus' poem *To the Dead Adonis*, in which he states that Aphrodite ordered Eros to hunt and capture the boar, an element that imparts an interesting additional reading to the representations cited here:

Ἄδωνιν ἢ Κυθήρη  
ὥς εἶδε νεκρὸν ἤδη,  
στυγνὰν ἔχοντα χαίταν  
ὠχράν τε τὰν παρειάν,  
ἄγειν τὸν ὕν πρὸς αὐτὰν  
ἔταξε τῶς Ἑρωτας.  
Οἱ δ' εὐθέως ποτανοὶ  
παῖσαν δραμόντες ὕλαν,  
στυγνὸν τὸν ὕν ἀνεῦρον,  
δῆσάν τε κάπεδον.  
Χῶ μὲν, βρόχῳ καθάψας  
ἔσυρεν αἰχμάλωτον•  
ὁ δ', ἐξόπισθ' ἐλαύνων,  
ἔτυπτε τοῖσι τόξοις.  
Ὁ θῆρ δ' ἔβαινε δειλῶς•  
φοβεῖτο γὰρ Κυθήρην.  
Τῷ δ' εἶπεν Ἀφροδίτα•  
«Πάντων κάκιστε θηρῶν,  
σὺ τόνδε μηρὸν ἴψω;  
Σὺ μευ τὸν ἄνδρ' ἔτυψας;»  
Ὁ θῆρ δ' ἔλεξεν ᾧδε•  
«Ὅμνυσί σοι, Κυθήρη,

αὐτάν σε, καὶ τὸν ἄνδρα,  
καὶ ταῦτά μευ τὰ δεσμά,  
καὶ τώσδε τὼς κυναγῶς, //  
τὸν ἄνδρα τὸν καλὸν σευ  
οὐκ ἤθελον πατάξαι•  
ἀλλ' ὡς ἄγαλμ' ἐσεῖδον,  
καί, μὴ φέρων τὸ καῦμα,  
γυμνὸν τὸν εἶχε μηρὸν  
ἐμαινόμαν φιλάσαι,  
καί μευ σίναζε κραντήρ. //  
Τούτους λαβοῦσα, Κύπρι,  
τούτους κόλαζε, τέμνε•—  
τί γὰρ φέρω περισσοῦς;—  
ἐρωτικούς ὁδόντας•  
εἰ δ' οὐχὶ σοι τάδ' ἀρκεῖ,  
καὶ ταῦτ' ἐμεῦ τὰ χεῖλη•  
τί γὰρ φιλεῖν ἐτόλμων;  
»Τὸν δ' ἠλέησε Κύπρις, //  
εἰπέν τε τοῖς Ἔρωσιν  
τὰ δεσμά οἱ 'πιλῦσαι.  
Ἐκ τῷδ' ἐπηκολούθει,  
καὶς ὕλαν οὐκ ἔβαινεν•  
καὶ τῷ πυρὶ προσελθὼν //

ἔκαιε τὼς ἔρωτας. (Mavropoulos 2007, 478–81)

It is also a fact that the boar, across time and cultures, has been an artistic motif with a totemic character (Nerantzis 2006), often associated with chthonic worship and symbolizing rebirth, the fertility of nature, and the coming of spring (Lilimpaki-Akamati 1996, 10–71, nos 120–6; Nerantzis 2006). The combination of the robust boar with the lush tree in the representation of the Kissamos' τραπεζοφόρον perhaps has its origins in a corresponding association. The question arising from the above interpretations concerns the identity of the hunter(s) who might have been depicted in the scenes of the table's counterpart (πάρισσον). One of these hunters might represent the table's owner, for whom it may have served as an advertisement of his social prestige and sophisticated lifestyle. The relevant mythological

contexts and the Classical prototypes might also permit the presence of Meleager and his procession. The abovementioned myth, however, also allows us to consider both Eros and Adonis and thus to relate the boar to the perpetual cycle of (re)birth and death of a fertility deity who symbolizes the annual renewal of nature through the changing of the seasons (Mavropoulos 2007, 483–4). The myth and cult of Adonis is of Semitic origins, but it was known in Greek culture since the Archaic period. As a deity of nature and symbolizing its annual cycle, his cult was initially rural; it was developed among women, spread throughout the Hellenistic world, and continued during the Roman era with regional variations. These included the search for dead Adonis, the mourning and procession of his wooden statue, the offering of incense, and the destruction of the so-called Gardens of Adonis, planted with quick-growing plants as symbols of the short-lived god, by throwing them into the sea, or by breaking clay pots. The festivals took place annually during the summer and closed with the celebration of the resurrection of the god and his union with Aphrodite. Theocritus (*Idyll* 15, Syrakousiai or Adoniazousai) describes the festival specific to Alexandria at the time of Ptolemy Philadelphus. In Rome, the cult spread in the 1st century BC. It is recounted by Ammianus Marcellinus (*Rerum Gestarum* 12 9.15) that the Adonia in Antiocheia coincided with the arrival of the Emperor Julian in the spring of AD 362 (*RE*, s.v. Adonis, 385–95; s.v. Adonia, 394; Burkert 1993 [1977], 147, 374–5, 420, 501).

Such evidence confirms that the prevailing atmosphere of the imperial period recalled in the minds and consciousness of the Roman people the myth of this particular deity as an expression of the eternal and human metaphysical desire for rebirth and immortality (*LIMC* 1, s.v. Adonis, 222 [Servais-Soyez]). Within this context, the depiction of the tree and its remarkably realistic cavity at its root must be considered as significant. Moreover, the whole depiction was probably a well-known symbol to the Roman Kissamos elite, who seem to have been equally involved in these particular spiritual pursuits, as is indicated both by the representations in the mosaics in its urban villas (Markoulaki 1987; 2011) and also by the decoration of their luxury furniture (Milidakis and Papadaki, forthcoming).

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# The Roman theatre at Aptera: a preliminary report

*Vanna Niniou-Kindeli and Nikos Chatzidakis*

## Introduction

Aptera was one of the important city-states of Crete throughout the island's long history (Fig. 10.1). The first attestation of its name occurs on the Linear B tablets from Knossos as *A-pa-ta-wa* (Ventris and Chadwick 1956, 141, 179–80). References to the site by ancient historians, geographers, and lexicographers first appear in the 5th century BC and continue up until the 12th century AD in an effort to define the location of Aptera, the size of its territory, and its distance from neighbouring cities (Scylax 47.22; Diod. Sic. 5.64.5; Strabo 10.4, 13; Pliny *HN* 4.12.59; Ptol. *Geog* 3.15.7; Dion. Calliphon. 122–3; *Stadiasmus maris magni* 344.1; Hippol. 622.2; Hesychios 6866; *Etymologicum Symeonis* 28–32). There are also numerous later attestations by travellers who attempted to locate the city and identify it with this particular site, and who recorded all the surviving monuments, including the walls, the large Roman cisterns, the bath complexes, and part of the theatre (Savignoni and De Sanctis 1901, 291; Buondelmondi 1983, 53; Spratt 1984, 128–31; Pashley 1991, 57–66; Basilicata 1994, 47; Tournefort 2003, 93–4). Its superb geographical position proved ideal for its development as a powerful commercial and political centre. Through its two ports, Minoa and Kissamos (not to be confused with Kissamos on the far west of Crete) on either side of the entrance to Souda Bay, it controlled local maritime activity. According to the latest data, the earliest finds from the excavations date from the 8th century BC (Andreadaki-Vlazaki 1988, 280–2). Excavations in recent years have provided further indications of a city that was already of particular importance in the Archaic period, which accords with Pausanias' reference to the dispatch of a company of archers from Aptera in the Second Messenian War (Pausanias 4.20.8). The city was at its zenith in early Hellenistic times, when it issued its own coinage and expanded its commercial and political activities. At this time, according to epigraphic and literary evidence, it formed ties with some of the main centres of the Hellenistic world (*IC* II.xxx.14–30; Masson 1979, 59–63,

70; Chaniotis 1991, 241–7).

In imperial times, Aptera belonged to the *Koinon* of the Cretans, as did many other large cities in Crete (Tsoungarakis 1987, 298–300; Harrison 1993, 230–2). After the Roman conquest of Crete in the 1st century BC, it lost its autonomy and was placed under the jurisdiction of Kydonia, which had the status of *civitas libera*. As the latter had gained the favour of the Romans immediately after the conquest, Aptera appears to have benefited from this favourable treatment and was able to enjoy the new prosperity that was experienced by the whole island (Harrison 1993, 38). Already in early imperial times, with the cessation of the civil wars and the eradication of piracy, the slave trade and the trade in war booty, commerce, and the economy had expanded, and at the same time the island generally became more outward looking (Baldwin Bowsky 1995, 45, 54, 47; Chaniotis 1999, 211; 2008, 85–6).



Figure 10.1 Map of Crete.

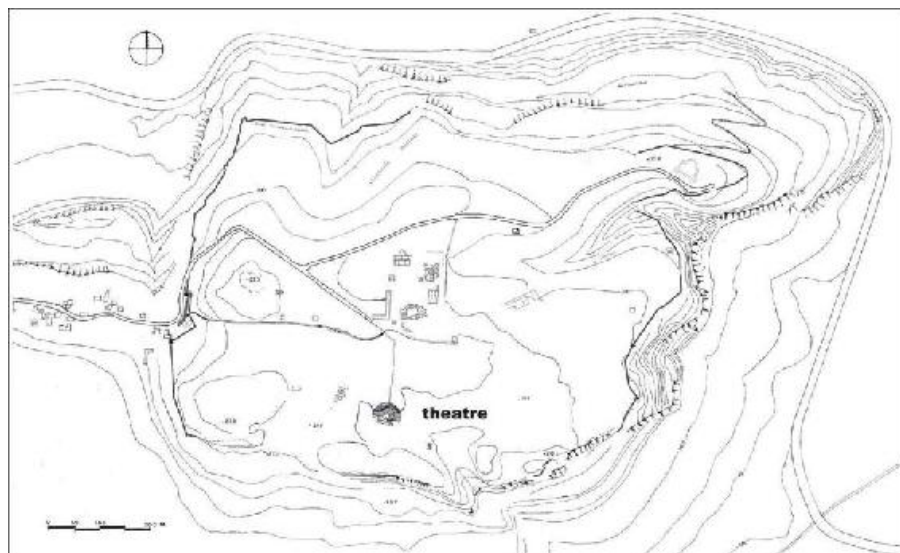


Figure 10.2 Site plan of the city.

Recent excavations have shown that in these conditions the city experienced its new period of prosperity in the 1st–2nd century AD, reflecting the general artistic flowering that occurred during the reigns of Trajan and Hadrian and which can be seen both in the individual, independent creations and also the public and private buildings that have come to light (Harrison 1993, 222–93; Martinez 2004, 90–1; Baldwin Bowsky and Niniou-Kindeli 2006, 409). The most recent excavations have begun to overturn the existing picture of Aptera's decline in the 3rd century AD, indicating that this gradually occurred in the 4th century AD, by which time the *Pax Romana* had already begun to break down (Touratsoglou and Sidiropoulos 2000, 290). After the earthquake of AD 365, the site continued to be occupied into the Byzantine era, though only to a limited extent and with few signs of its former prosperity. The successive earthquakes of varying intensity, together with the Saracen raids that began as early as the 7th century AD (Tsoungarakis 1987, 340–3), brought about a reduction in the population and a general decline until the site was finally abandoned. In the 11th century, the small Monastery of St. John the Theologian was founded at a central point of the ancient city, probably in the ancient agora, and functioned until 1962 (Dounakis 1967, 21, 22).

The fortification wall that surrounds Aptera dates shortly before the middle of the 4th century BC. It is 3480 m long and encloses the low hill on which the city was built (Fig. 10.2). The main entrance, which led to a paved road, has recently been uncovered in the west side of the wall. In this area, a series of imposing grave monuments dating from the Hellenistic to the late-Roman period had been constructed (Niniou-Kindeli 2006; 2012). To the largest of these belongs a portrait of a couple from the Trajanic period (Niniou-Kindeli and Christodoulakos 2004, 314–6; Karanastasi 2011; this volume). Near some of these monuments have been found a number of inscribed pedestals from the 1st–2nd centuries AD bearing the names of illustrious citizens who had been given heroic status for making various benefactions to the city (Martinez and Niniou-Kindeli 2002, 270–9). Among these there are traces of rituals with remains of burnt libations, lamps, plates, and grains. Two of the most imposing monuments in the centre of the city are the large vaulted cisterns from the 1st–2nd century AD that supplied the two large public bath complexes and provide evidence for an active, large-scale public works construction program (Niniou-Kindeli and Christodoulakos 2004, 323–6, 329–34; Niniou-Kindeli 2007, 44–7). The central temple



area has been partially investigated and provides a picture of the city's phases of worship from the Geometric period up until the Christian era (Andreadaki-Vlazaki 1988, 280–2; Niniou-Kindeli 1994–1996, 208–10). In the eastern section of the area, within the wall, a small temple *in antis* dating from the 1st century BC was excavated by Stylianos Alexiou and attributed by him to Demeter and Kore, based on the kernoi found in the temple (Platon 1958, 468–9). Another temple, which was attributed by Drerup (1951, 97) to Dionysos based on its proximity to the theatre, lies to the east and might be connected with it. In this area, there is also a large house with a peristyle courtyard, which has been partially excavated (Niniou-Kindeli 2007, 38–43). Its original phase dates to the early imperial period, according to its architecture and pottery; it was in continuous use until its destruction by the earthquake of AD 365. The domicile lies very close to the theatre and, according to surface indications, within the city's dense urban tissue.

Apart from the large grave monuments, the Roman funerary architecture at Aptaera is characterized by rock-cut chamber tombs with niches or compartments (Niniou-Kindeli 2007, 56–63). In a few cases, the shaft-type of grave was used, which made use of the natural rock and had partly built walls, as well as the tile type for infants, children and citizens of low status (Niniou-Kindeli 2007–2008, 57–62). The city possessed three cemeteries, one on the west side, one on the south-east side, and the third to the north, while there are also preliminary indications of a fourth one on the east side. The first one was the most extensive, as it is connected with the main entrance to the city and has been investigated fairly extensively in the course of rescue excavations.

## The theatre

### *Description*

The theatre at Aptaera was constructed in a natural cavity and has a southward orientation with a view of the White Mountains opposite (Figs 10.2 and 10.3). It lies in the southern part of the city, close to the entrance on that side. Though already known to travellers (Basilicata 1994, 47; Pashley 1991, 49), it had never been systematically excavated until recently. The first person to provide a detailed description of it was Drerup in 1942, when he was excavating the so-called bipartite sanctuary in the city, although he did not actually excavate the site (Drerup 1951, 94, no. 6). Even so, he gave

the dimensions of the orchestra, the *cavea*, and the *scene* and, on the basis of a Doric capital that is now lost, he dated the theatre's original construction to the 'late-Pergamene phase.' This late-Hellenistic dating was also used by Sanders (1982, 167), who, in terms of its dating, described the theatre as being unique in Crete. The most recent catalogue of Roman theatres, which includes a fairly accurate reference to the theatre at Aptera, has been provided by Sear (2006, 294).

According to oral tradition, after the Second World War, only the *cavea* had been uncovered by local villagers, who had intended to 'utilize' it in some way. The incorporation of the relevant approved study into the 3rd Community Support Framework for the Region of Crete (Operational Programme 'Culture' for the period 2000–2006) and later into the National Strategic Reference Framework for 2007–2013, made it possible to implement the plan of uncovering the rest of the monument and restoring it. The initial results of the excavation were put up on public display at the University of Crete in 2010 (Niniou-Kindeli and Chatzidakis 2012, 548–51).



Figure 10.3 General view from south.

Although work is still in progress, most of the theatre has now been uncovered. The structure that has come to light is a Roman theatre built on the site of an earlier Hellenistic one (Fig. 10.4). All of its members are constructed of a local poros limestone, as are most of the city's monuments. A great deal of damage was caused by a lime kiln built in recent times in the middle of the *cavea*, which was fuelled by the seating blocks and architectural members and resulted in the denudation of most of the *cavea*.

#### *Koilon (Cavea)*

The seating blocks rested on rubble masonry laid in tiers and bound with clay mortar. All the horizontal surfaces of the tiers were covered in a fine layer of lime mortar as a bedding for the blocks (Figs 10.5, 10.6). The tiers of rubble masonry rest on the earthen substratum of the earlier Hellenistic theatre, which was constructed of hard red

earth (Fig. 10.7). The natural hollow in which the theatre was built was not large enough to accommodate the whole of the monument and for this reason its upper section was constructed of fill held in place by a strong perimetric wall. Of the *epitheatron*, only the lowest substratum of the *cavea* has survived – this can be identified with the Hellenistic phase of the theatre – as well as the perimetric retaining wall, with a few alterations from the Roman period. The slope of the Hellenistic substratum is much gentler than that of the later Roman phase, where it becomes much steeper, lying at an angle of approximately  $28^\circ$ . A similar phenomenon may be observed in the theatre at Thasos, where there is a slope of  $16.5^\circ$  in the Hellenistic *cavea* and one of  $26.5^\circ$  in the later Roman one built during the Severan period (Bonias and Marc 1997, 798). According to Sear, the slope of the *cavea* in Roman theatres ranged from  $28.5\text{--}31.5^\circ$  (Sear 2006, 30).

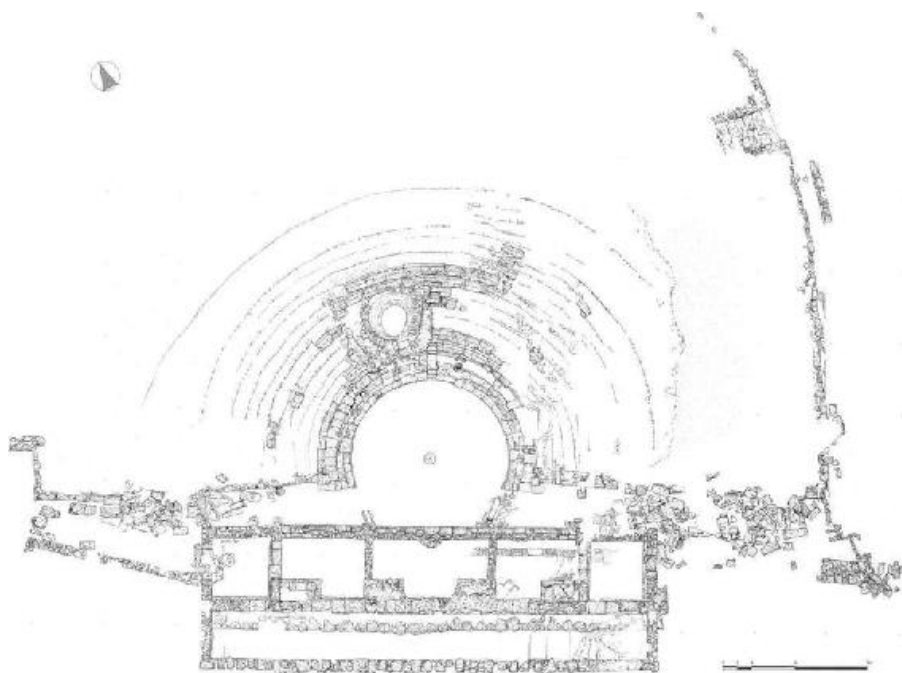


Figure 10.4 Plan view.



Figure 10.5 The west part of koilon.

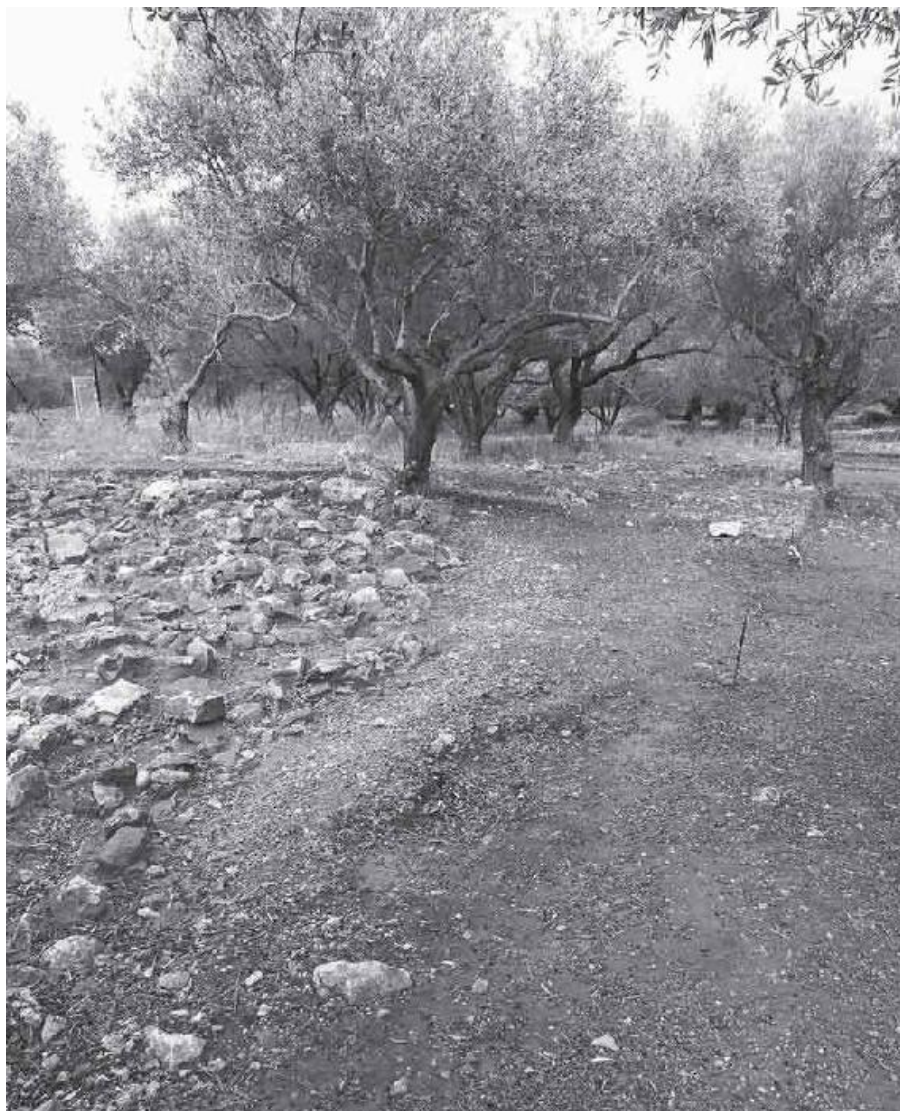


Figure 10.6 Section on the north-south axis of the theatre.

The seats in the central section of the *cavea* have been uncovered *in situ* around the lime kiln. This group includes sections of the 1st (eight seats), 2nd (seven seats), 4th (two seats), 5th (six seats), 6th (three seats), 7th (nine seats) and 8th (nine seats) rows of seating, as well as one seat each from rows nine, ten, and 11, together with a few scattered seats, two of which lie to the east of the main group and three to the west. Some of these bear incisions from the wedges that were used to break them up after the monument was destroyed. Part of the central staircase survives, the steps of which are carved out of the same blocks as the adjoining seats (Fig. 10.8). The height of the seats ranges from 37 cm to 39 cm, and they have a vertical profile up to a height of 24 cm, where a rim with a concave underside, 5.5 cm deep, projects outwards and terminates in a band 8.5 cm high (Fig. 10.9). This band becomes vertical at the point where each row of seats meets a staircase (Fig. 10.10), which is a feature of the theatres in the eastern empire (Sear 2006, 108). Similar shaping appears in the theatre of Sparta (Woodward 1923–1925, 125, fig. 6) as well as in the

seats in older theatres at Megalopolis and Epidauros (Ciancio Rosseto and Pisani Sartorio 1994, II, 209). The surface of each seat is 34 cm wide, behind which lies the sunken area of the footrest, which is 29 cm wide and 1.5–2.0 cm deep, and then another zone approximately 15 cm wide, at the end of which lies the base of the seating block above (Fig. 10.11). Unlike the front surface, which is vertical, the upper surface is not horizontal but slopes towards the centre at an angle of approximately 3% to direct the rainwater away. The seats in the first row differ in the form of their upper surface; here the sunken area is 23 cm wide and 7 cm deep. Below the first row of seats, the footrest is of the same height as the seats themselves (Fig. 10.12) and consists mainly of re-used architectural members of good quality positioned with their main face facing inwards. These members come from the superstructure of a building: four of these have been identified as cornices, one of which has a flat face and moulded crown. The first step of each staircase was carved out of the footrest. Of the five staircases that divided the *cavea* into four *cunei*, the central staircase was 70 cm wide and broader than the others, which had a width of 50 cm.





*Figure 10.7 The substratum of the two phases.*



Figure 10.8 View of the central staircase.

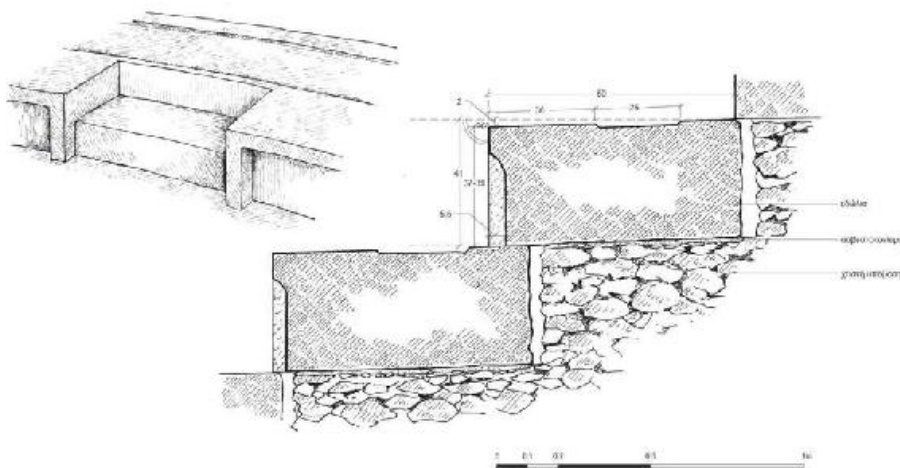


Figure 10.9 Seats. Section (sketch).



Figure 10.10 Detail of seat with mason's mark.

Beneath the footrest was a wide corridor constructed of two rows of trapezoidal slabs with lateral sides converging towards the centre of the orchestra; many of these slabs survive *in situ*. The slabs in the first row – towards the *cavea* – also serve as covering slabs for a built, semicircular conduit 52 cm deep and 61 cm wide. The floor of the conduit consists either of carved well-jointed limestone slabs or suitably hewn sections of natural rock (Figs 10.12 and 10.13). The conduit does not extend all around the *cavea*, and it remains unclear where the rainwater collected by the conduit was channelled since no outlet to the south has yet been found. Of the second row of slabs – towards the orchestra, no architectural member has survived. In the space beneath the bottom of the third, central stairway a longer covering slab survives, at the end of which is a step down to the orchestra. Such an arrangement is unusual in Roman theatres, which at this point usually possessed – mainly in the western empire – a thin wall and seats of honour (*bisellia*), or – in the eastern empire – a podium, although this applies to theatres that were not converted into arenas (Sear 2006, 84). Of the other known examples, the closest is that of the theatre at Messene (Themelis 2010, 28). To an earlier building phase of the theatre belong the two converging sections of conduit, which are partly carved out of the natural rock and partly built of hewn stones that lie to the north of the *proscenium* (Fig.



10.4).



*Figure 10.11 The seats.*

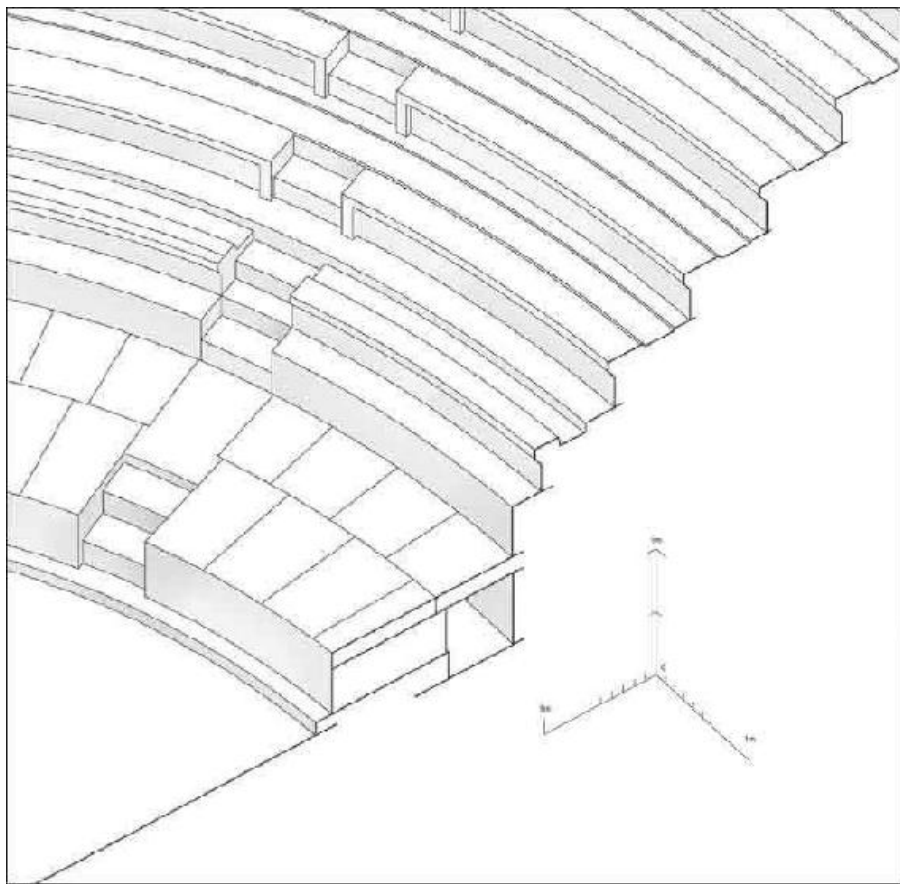


Figure 10.12 The lowest part of the koilon. Restored isometric view.

On the basis of the ends of the *analemmata*, which lie at an equal distance away from the centre of the orchestra, the *cavea* is 54.70 m in diameter. This diameter corresponds to 25 rows of seats. Traces of 13 rows are today visible. However, the *cavea* in antiquity was much larger: the perimetric retaining wall that held the artificial fill in place and is now being uncovered by the excavation extended further north in an elliptical shape (Figs 10.14, 10.15). The elliptical shape was very common in the Hellenistic era, examples of which are the theatres at Messene and Delos. It is not found, however, in Roman theatres, where the *cavea* was strictly circular in shape. The artificial fill on which the theatre was built had been destroyed by the intensive farming that took place while the monastery was in use. An entrance has been uncovered to the north-east of the *cavea*, together with the first five steps of an internal staircase from the Roman building phase, which must have led to the *praecinctio*, passing beneath the *epitheatron* (Figs 10.4, 10.16). The structural arrangement is different on the west side, where the perimetric retaining wall turns a corner after 3.5 m

and heads in a westerly direction. There was probably an entrance at this point that provided access to the *praeincinctio* by means of an external stairway or ramp. There is a similar arrangement at the theatres of Messene (Themelis 2010, 19–21) and Iasos (Sear 2006, 339), where the concealed staircases co-exist with the external ones. A road has been uncovered in the area of the houses in the direction of the western stairway, about 100 m to the west.

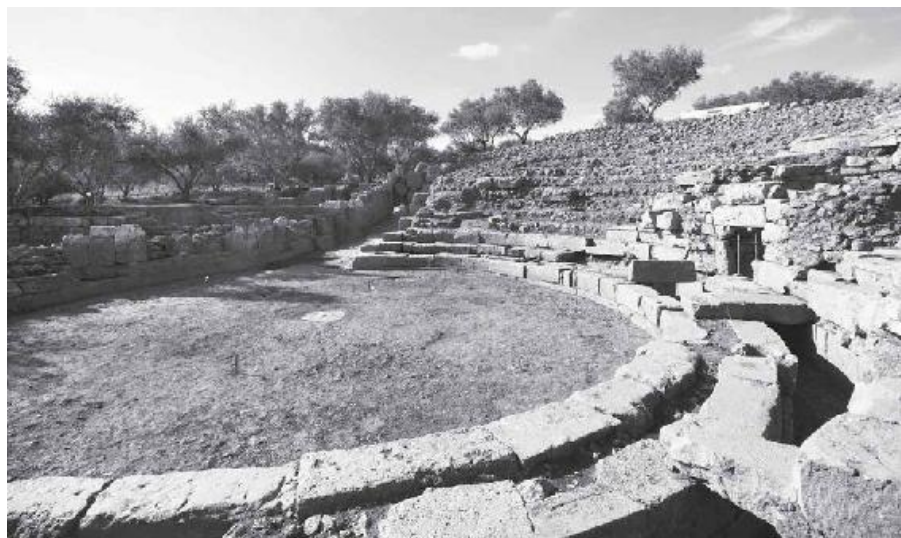
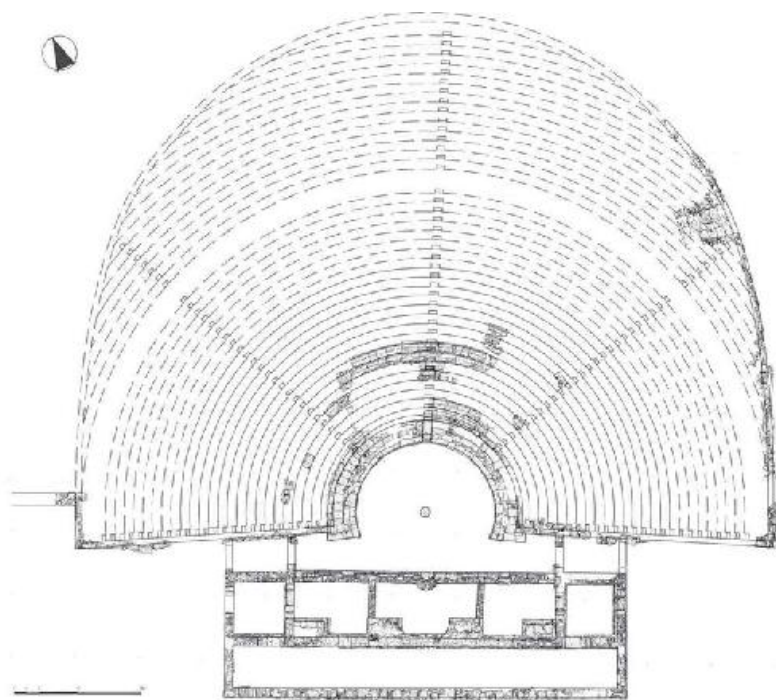
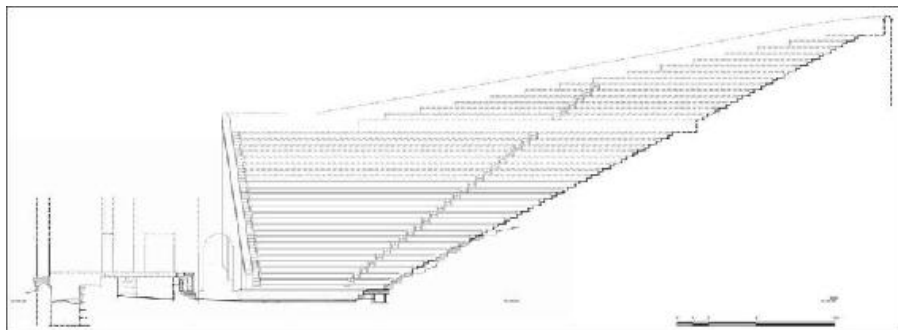


Figure 10.13 The conduit.



*Figure 10.14 2nd Roman phase. Restored plan view.*



*Figure 10.15 2nd Roman phase. Restored section on the north–south axis.*



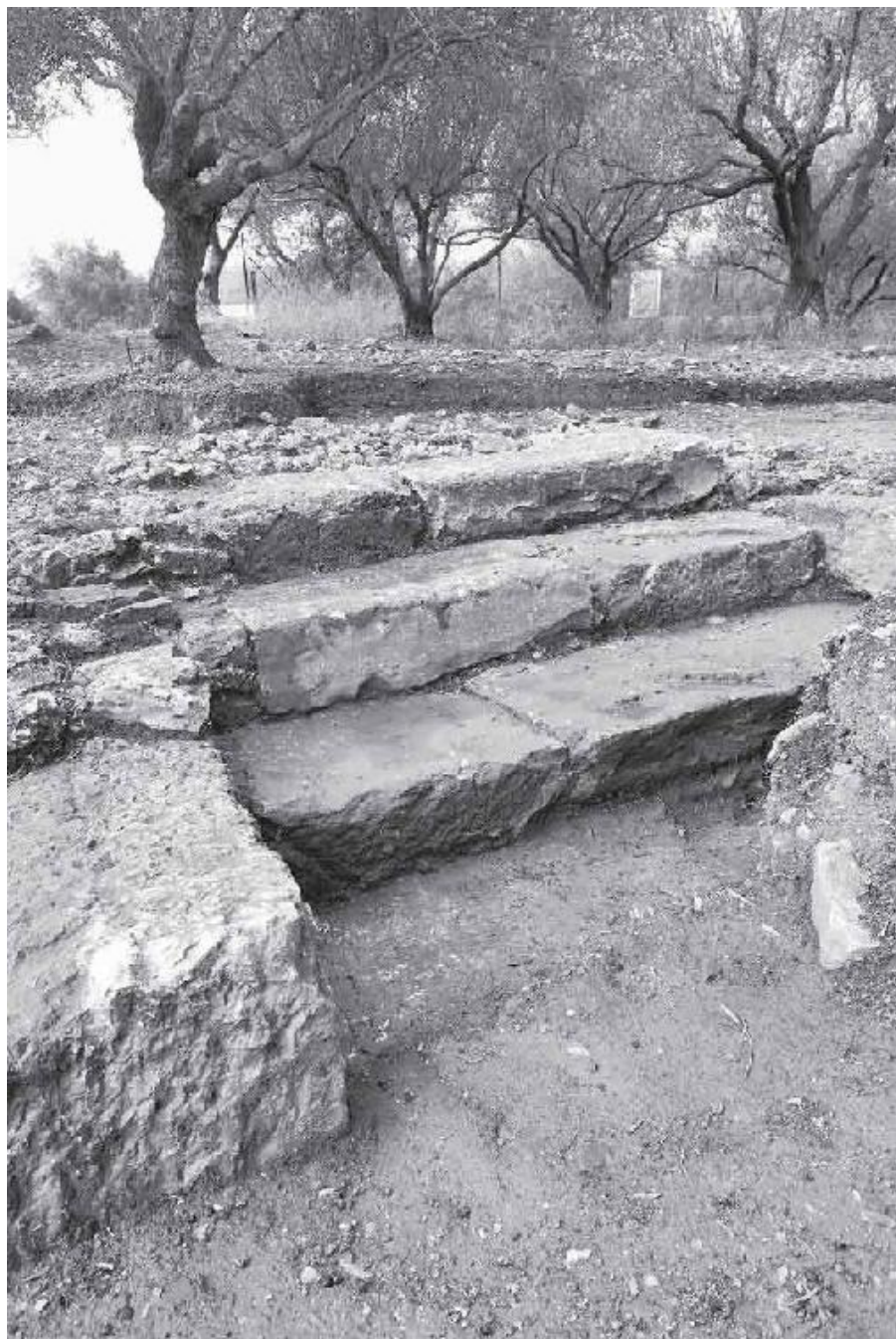


Figure 10.16 The internal staircase.

### Orchestra

The floor of the orchestra is constructed of firmly compacted earth (Fig. 10.17). The circular, stone foundation of the *thymele* has been found at the centre. The orchestra and the *cavea* were constructed

with only one centre, and the radius of the orchestra is 5.45 m, making it one of the smallest orchestras to have been found in an ancient theatre.

### *Analemmata*

The retaining walls of the *parodoi* were unable to withstand the powerful pressure of the earth fill and, as has happened in most ancient theatres, they have collapsed, probably as a result of the powerful earthquake of AD 365 that flattened a large part of the ancient city (Figs 10.18 and 10.19). A large number of the stone blocks from these walls now lie in the *parodoi*. The architectural members lying at the highest points of the heaps of fallen masonry have been uncovered. Among them have been identified members from the outermost staircases, fragments with a slanting upper surface that formed the topmost slanting extremity of the walls, as well as stone members of semicircular section with a diametric band that formed the topmost section of the *analemmata* (Fig. 10.20). The walls begin by the footrest of the lowest row of seats and extend approximately 20 m to both east and west, after which they turn a sharp corner and curve round to the north. Both corners have been uncovered and lie symmetrical to the axis of the theatre. The *analemmata* are not aligned perpendicular to the axis of the theatre but diverge by 4° towards the south. If extended, they would converge at a point 1.13 m south of the centre of the theatre. Apart from their extremities near the orchestra, these walls are mainly constructed in the same manner as defensive masonry, like the city's fortification wall, with well-fitted, squared stone blocks with unworked and curved external surfaces (Themelis 2010, 20); these date from the early Hellenistic period (Fig. 10.21). The curved wall that surrounds the *cavea* is also of similar construction.

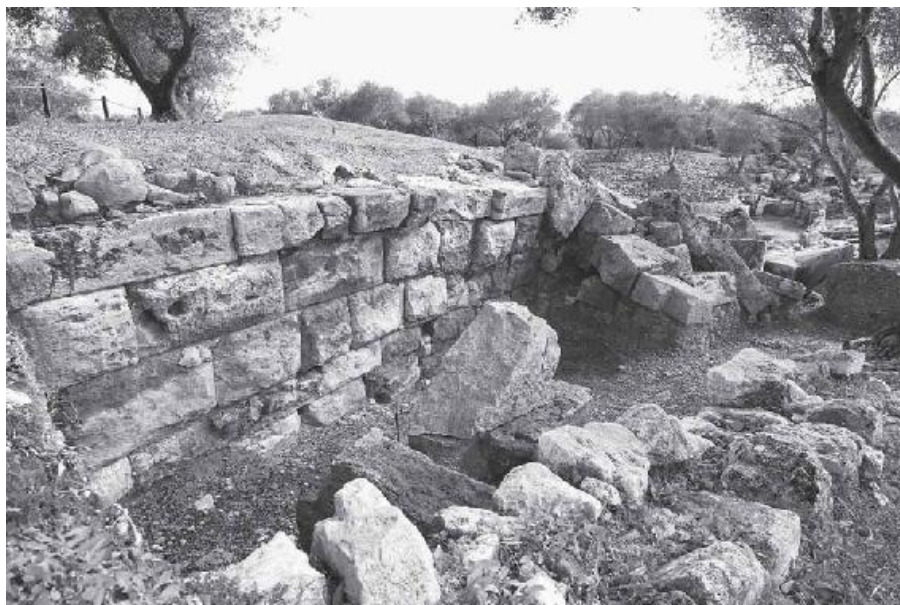
At the western end of the west *analemma*, the three lower courses are constructed in the technique mentioned above, while the fourth and last surviving course has a different external face, one marked by a perimetric band (Fig. 10.22). The blocks which have fallen from higher courses of masonry are marked in a similar way. It appears that the Hellenistic *analemma* collapsed or buckled – perhaps as a result of the earthquake of AD 46 (Di Vita 1979–1980, 437) or AD 66 (Stiros 2008, 4, 11, 55, 87) and was repaired during the Roman alterations.

The section of the *analemmata* that lies near the orchestra, which is approximately 6 m in length, belongs to a later building phase. This is suggested by its different method of construction, which is

characterized by flat external surfaces with deep chisel marks all running in the same direction.



*Figure 10.17 The orchestra and the proscenium.*



*Figure 10.18 The west parodos with the fallen stone blocks.*



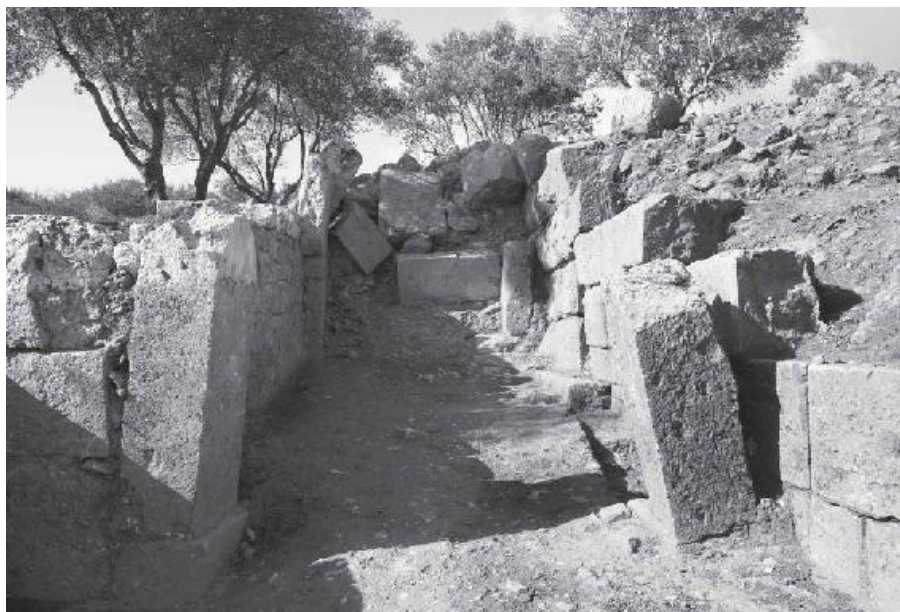


Figure 10.19 The west parodos with the fallen stone blocks.

To the final phase belong the four pairs of pillars that lie on either side of the *parodoi*; the westernmost pair of pillars has not yet been uncovered. The four voussoirs found among the members of the *parodoi* probably belong to arches that rested on these pillars and formed the *tribunalia* at the entrances to the orchestra. The floor of the *parodoi*, which is constructed of well-packed earth, slopes upwards from the orchestra towards the outer edge of the theatre (Fig. 10.19).

#### *The stage (proscenium)*

The front wall of the stage consists of a core of rubble masonry bound by lime mortar and faced with vertically laid limestone slabs resting on a low podium and moulding (Figs 10.17, 10.23, 10.24). It was crowned by a cornice with a convex and a concave moulding. In the facade of the *proscenium* are three niches: a semicircular one in the centre on the theatre's central axis, and rectangular ones on either side. At the two ends of the wall, towards the *versurae*, are two narrow monolithic staircases that led to the wooden floor of the stage (*pulpitum*). Two transverse walls of rubble masonry connect the *proscenium* wall with the *scaenae frons* and separate the long space below the stage (*hyposcaenium*) into three parts. The walls in these areas are not plastered, as they were covered by the wooden floor of the stage. The *proscenium* and the transverse walls constitute a later phase of the *scaenae frons* and are constructed in a different manner.

#### *The scene building (scaenae)*



The back wall of the stage has the typical form of an indented *scaenae frons* (Sear 2006, 84), with three large niches with corresponding doors (Figs 10.14, 10.23). The narrow sides of the central niche were curved, while the sides of the two lateral niches were parallel. On the east and west sides of the *proscenium* are the *paraskenia* (*basilicas*).

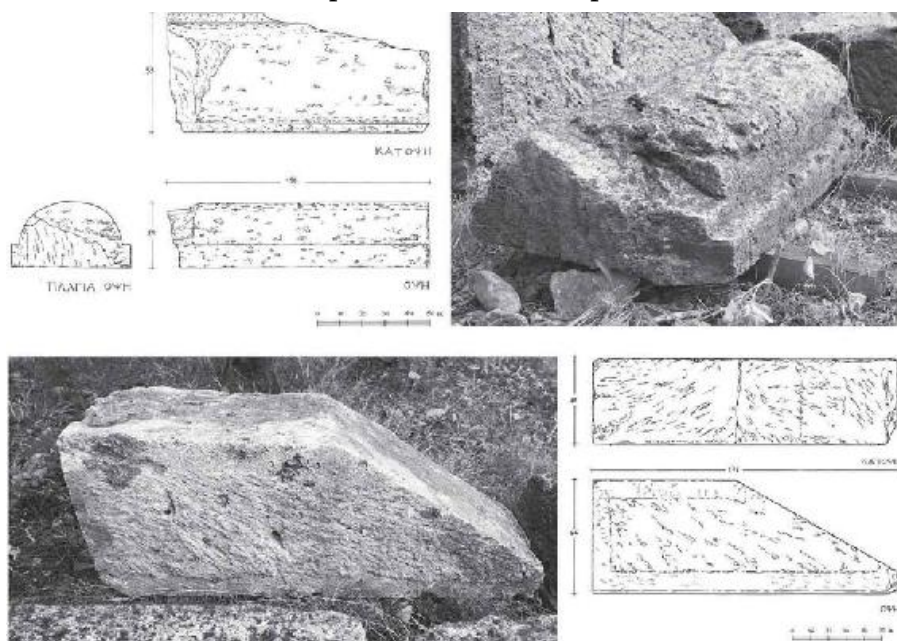


Figure 10.20 Architectural pieces from the east parodos.

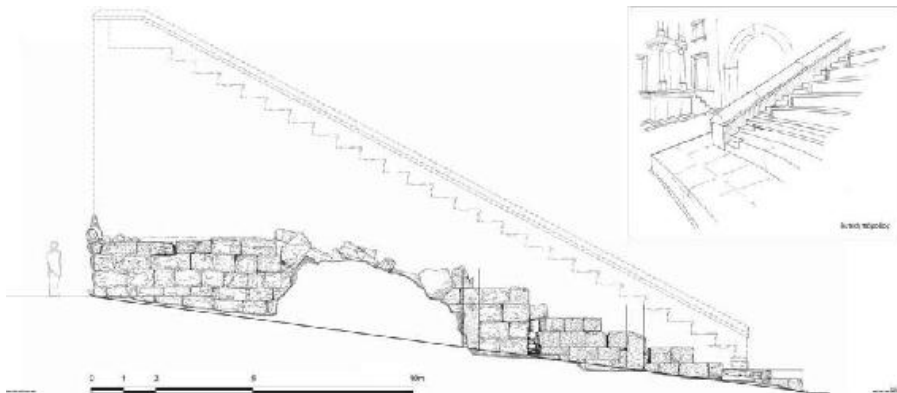
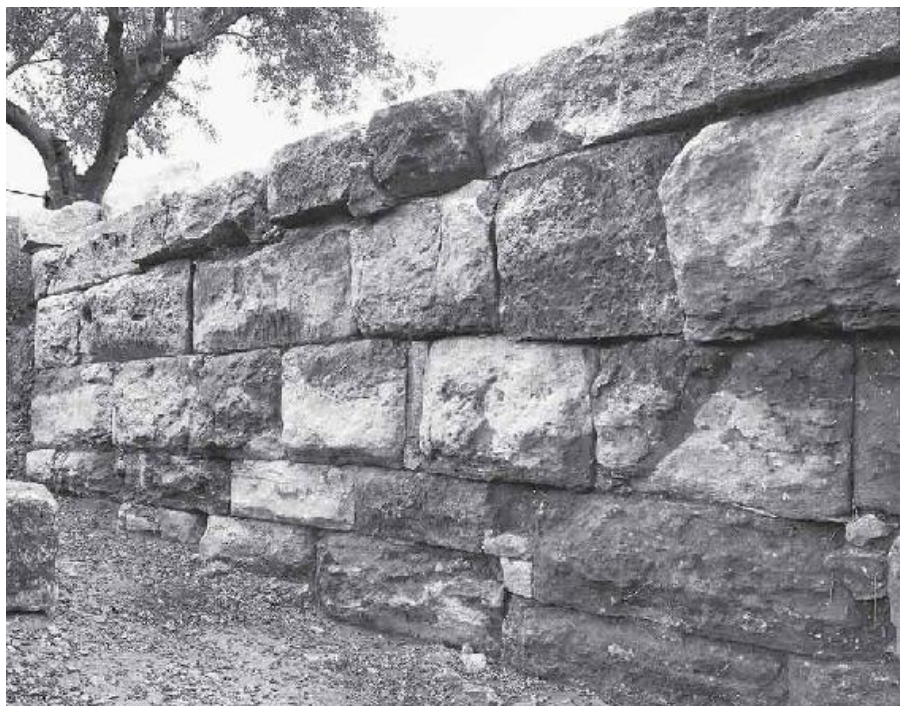


Figure 10.21 The west analemma. Restored elevation: sketch.



*Figure 10.22 The analemma of the west parodos.*



*Figure 10.23 The scene building from east.*

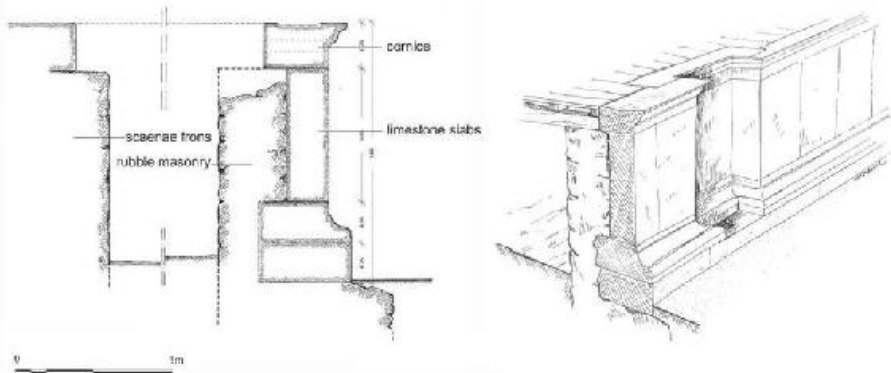


Figure 10.24 The proscaenium. Restored section: sketch.

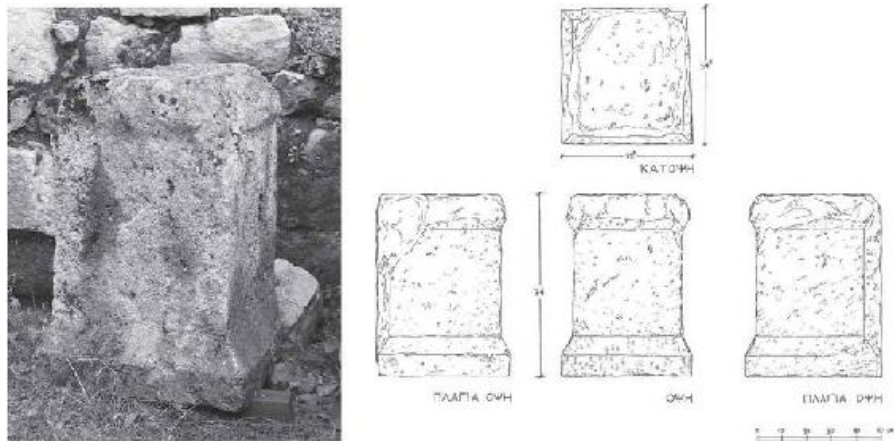


Figure 10.25 Architectural pieces from the scene building.

The *scaenae frons* wall, together with the partition walls of the *versurae*, from the foundations up to a level 30 cm lower than the floor, are constructed of large hewn stones as well as smaller unworked stones, all bound by a strong lime mortar. The 30 cm zone beneath the floor is constructed of a course of large stone blocks that forms a recess approximately 21 cm wide, which was probably intended to support the beams of the wooden *pulpitum* (Fig. 10.24). Only the strong, straight 70 cm wide wall continues above the floor level, together with the walls of the *versurae*, which are constructed of a core of small stones bound with lime mortar (*opus testaceum*) with an external facing of triangular bricks. An analysis of the mortars has shown that the mortar used here is similar to that used as a bedding for the seats. This fact suggests that the seats were put into position in the same building phase as the *scene*. Architectural members from the decoration of the *scaenae frons* have been found lying in the area of the *hyposcaenium* (Figs 10.25 and 10.26). Cornices and a lintel have been found; the latter probably comes from the central door (*valva*



*regia*), since it was recovered directly in front of it. The pedestals, which probably belonged to the columns that rested on the projections in the wall and formed part of the composition of the facade, have also been found.

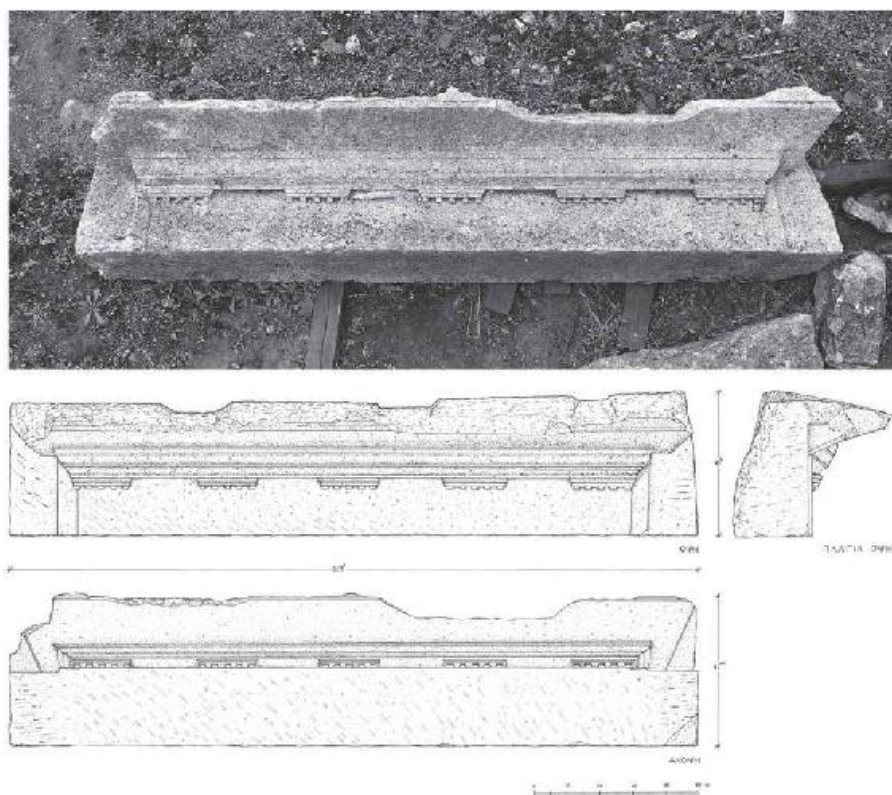


Figure 10.26 Architectural pieces from the scene building.

The *paraskenia* (*basilicas*) lie on the east and west sides of the *scene*. These take the form of rooms measuring  $4.40 \times 4.10$  m with three doors, one each in the east, west, and south walls respectively. Sections of some of their stone jambs survive, as well as traces of them on their thresholds (Fig. 10.4). The disturbance of the fill by later interventions has eradicated any clear evidence of the floors: the floor has been completely destroyed in the western basilica, while in the eastern one there are remains of some lime mortar floors, which appear to be connected with ‘working floors.’ It can be assumed that the floors of the basilicas were also of wood, like that of the *pulpitum*. In their present form, the *basilicas* belong to the second building phase of the Roman *scene* building. This has become clear from a wall uncovered from the first phase at a lower level, which abuts the eastern limit of the building and shows that the eastern basilica was originally 70 cm larger.

To the south, at a distance of approximately 3.35 m away, the *scene* building is bounded by a strong external wall that encloses the *postscaenium* (Figs 10.4 and 10.6). It is constructed of unworked and semi-dressed stones bound by lime mortar. It extends to a great depth, as far as the bedrock (extant height 3 m). Its surviving upper surface is constructed of stone blocks from the Hellenistic retaining wall that was found lower down, roughly laid in random positions.

### *Hellenistic phase of the Scene*

To the Hellenistic building phase belongs the strong retaining wall with a south-facing facade that has been uncovered to the south of the *scaenae frons* (Figs 10.4, 10.6, 10.27). It extends along the entire length of the *postscaenium* and rests on the natural rock. It is constructed in a manner similar to that of the city's fortification wall and the retaining walls of the *parodoi* – apart from the ends of the latter lying near the orchestra. This is the south wall of the Hellenistic *scene* building. To the same building also belongs the mud-built rubble foundation discovered in the area of the *hyposcaenium*, which rests on the natural rock and was suitably hewn for the purpose; it follows the same direction. It is worth noting that the foundation level of the wall lies approximately 80 cm higher than that of the surviving floor of the orchestra. This means that the floor of the Hellenistic orchestra was probably higher than that of the Roman one.

### **Excavation data**

Although the excavation is still in progress, the data for the construction and alterations to the monument are reasonably secure, since most of the theatre has now been uncovered. Apart from the damage caused by the earthquakes at different times, some of which were highly destructive (Di Vita 1979–1980), a decisive role was played by the different use of the site by the inhabitants of the early Byzantine period after the earthquake of AD 365. In some areas (western *parodos*, western *basilica*), evidence for the intervention that took place after the disaster is clearer than in other areas. Apart from this, however, the centuries-long cultivation of the local land with cereals and its more recent conversion into an olive grove has caused considerable damage.



Figure 10.27 The retaining wall of the Hellenistic scene building.

The upper section of the *cavea*, which, on the basis of the excavation data, was constructed of artificial fills, has been almost completely destroyed. The central section of the lower *praecinctio* was found covered with recent fill, a result of the local cultivation of the

land and the destructive activity of the lime kiln. Worthy of note and an indicative find is the fragment of a Hellenistic inscription found reused as building material in the entrance to the kiln. The rest of the *cavea*, towards the east, was covered by the layer of cultivated land that contained pottery, coins, and various other finds (figurines, fragments of glass vessels, and metal objects – mainly lead clamps) from all phases of the theatre's use. In the western part of the *cavea*, this layer contained a small quantity of Byzantine sherds from vases for everyday use. Of the 30 coins found so far in the *cavea*, two are Hellenistic silver coins from Aptaera and Rhodes, and the rest bronze, which have not yet been cleaned and identified. Apart from the local, Hellenistic bronze coins, the following are of note: a coin issued by the *Koinon* of the Cretans in the Hadrianic period, a coin from the reign of Constantine I, and another coin from the period of Venetian rule.

The ancient strata had not suffered recent interventions in all other areas. The original fill of the orchestra was found to be of mixed content. It contained pottery from all the earlier phases and a few sherds from the Byzantine era. The pottery in the layer that covered its floor belonged to the Hellenistic and Roman periods, up to the 4th century AD. Of the nine bronze coins that were found in this area, three are Hellenistic and two come from Aptaera. Two of the coins were found on the floor of the orchestra, one of which comes from the reign of Cleopatra, and the other from the reign of Constantine I with the title of 'Augustus' (Fig. 10.28), which was found next to the foundation of the *thymele* and perhaps provides us with a date for the theatre's final period of use.

The excavation of the *parodoi* is characterized by the mass of fallen stone blocks (Figs 10.18, 10.19). The collapse of the *analemmata* is probably due to one of the very powerful earthquakes that occurred in antiquity, most likely that of AD 365, which may have marked the end of the monument's use as a theatre. Judging by the number of fallen blocks, it appears that some of the material was removed from the area of the western *parodos* shortly after the collapse of the walls. The area was filled in with earth after the disaster roughly up to the height of the fallen blocks, very likely in order to even the ground surface for a later activity. At the same time as the *analemma* was uncovered, the foundation of a roughly constructed wall was unearthed; this structure was built on top of this fill in the 5th–6th century AD and appears to bound other areas to the south, outside the theatre. In the first few layers of the fill in the western *parodos* and near the Byzantine wall, a



small quantity of Byzantine ceramic items of everyday use was found, together with pottery from earlier periods. The other layers were characterized by the presence of mainly Roman pottery from all periods of the Roman occupation, as well as Hellenistic pottery. Most of the vessels from the Roman period are items of everyday use and date from the later Roman phases, but also include Italian Sigillata. The Hellenistic vessels consist mainly of black-glazed ware in the form of drinking vessels and oinochoai, as well as plates and skyphoi. Two Hellenistic bronze coins from Aptera can be identified among the numerous bronze coins that have so far been found, together with one from the reign of Septimius Severus (Fig. 10.29) and one from the reign of Theodosius I. The most numerous other categories of small finds are nails, bone pins, and fibulae.



Figure 10.28 Coin of Constantine I.

At the eastern *parodos* the stratigraphy of the two substrata of the *cavea* – the Hellenistic and the Roman – is clearly visible amongst the fallen blocks of stone. Unlike the western *parodos*, the area outside the fallen debris was not filled in after the disaster and gives a vivid impression of the effects of the earthquake (see Fig. 10.3).

In the three areas of the *hyposcaenium* that had not been disturbed by later interventions, the ground plan of some of the walls was initially visible. In the central area were remains of a destruction layer containing pieces of lime mortar, some of which bore traces of colour, numerous tiles, and small stones. Buried in this layer were some of the architectural members of the *scene* building (Fig. 10.23). The relief architectural members and fragments of marble sculptures, including the base of a table support, together with the coloured marble tiles that have been found in the fills in all parts of the *hyposcaenium* and come from the marble revetment of the *scene* building, and the



surviving fragments of wall paintings, provide a rough idea of the decoration of the *scene* building. The existence, moreover, of such a large number of tiles – *stroterai* and *kalyptera* – both in the destruction layer and in the other layers indicates that the *scene* building was roofed.



Figure 10.29 Coin of Septimius Severus.

The upper strata and the destruction layer contained a mixture of different pottery types, mostly Roman from the 3rd and 4th centuries AD. However, there were also ample specimens of early Roman and Hellenistic pottery, and even specimens of pottery from earlier periods, as far back as the Geometric era. The dating of the pottery in this stratum might prove that the theatre was destroyed by the powerful earthquake of AD 365, which has left its mark on all of the city's monuments. Beneath the destruction layer was a thin fill of earth covering the floor, which was constructed of lime mortar except in places where the natural rock had been left exposed. This fill had a high concentration of lime mortar pieces and contained pottery mainly from the early Roman period up to the first half of the 2nd century AD, and much less from the late-Roman period, together with numerous specimens of Hellenistic pottery. Generally, the most common types of vessels were plates, bowls (Italian Sigillata, Eastern Sigillata A, relief and black-glazed bowls), cups, jars, and amphorae. The finds also included cooking pots and lamps. According to Bowsky 2014 (after *Hesperia*) who has studied this material, the stamped Italian Sigillata from the *scene* building dates from the mid-1st to the mid-2nd century AD. Of the nine bronze coins found, two were Hellenistic issues from Aptaera, while the most notable amongst the others is a Roman coin issued in Knossos between 37 and 30 BC.

A foundation trench dug in the central part of the *hyposcaenium*, abutting its south wall, has provided further evidence that the

construction of the *hyposcaenium* should be dated to the monument's first Roman phase. The same trench was used to investigate the foundation ditch of the west transverse wall of the *hyposcaenium*, and the dating of the pottery found in it has confirmed the hypothesis that both transverse walls belong to the second Roman phase, as is also indicated by their construction characteristics. All of the strata contained clay loomweights, nails, bone fibulae, animal bones, and shells. Game accessories and fragments of figurines and bronze vessels were also found. Fragments of two inscriptions, one of which is in Latin, were preserved amongst the fallen material from the wall of the *proscenium*, on top of the orchestra floor. The re-use of the area during the Byzantine period had a more destructive effect in the western *versura* (see Fig. 10.4). The floor had been destroyed, and two holes had been pierced in one of the doorjambs. The area was completely filled in with earth in some later phase. This particular alteration, perhaps into a stabling area, must be connected with the arrangement and levelling-off of the area directly to the west at the western *parodos*, as described above, since the 5th–6th century AD wall begins exactly by the north jamb of the west entrance of the *versura*, which it has incorporated. Sherds from the 5th–6th century AD have been found in the upper stratum of the fill. The bulk of the pottery, however, dates to the 3rd–4th century AD and probably comes from a nearby house, since it consists of everyday vessels (used ribbed pots, flat dishes, amphorae, bowl stands, frying pans, plates, oinochoai, cups, and lamps, most of them local products), together with fragments of glass vessels, five Roman bronze coins, loomweights, animal bones and shells, tiles, and pieces of lime mortar. Moreover, another characteristic feature of the upper stratum here is the very large number of nails and other minor metal objects.

The eastern *versura* contained less earth fill than the western one and had not suffered the later destructive interventions. The strata here typically contained rough stones, tiles, pieces of mortar, fragments of glass vessels, and abundant pottery finds, most from all phases of the Roman period. The normal floor in this *versura* has not survived. On the other hand, lower down, a working floor has been found, which is constructed of lime mortar.

The finds to the south of the Roman *scene* in the area of the *postscaenium* are very different. This part of the theatre has the clearest stratigraphy. It is traversed by the strong Hellenistic *analemma* (Fig. 10.27), which was covered by a mixed-fill layer, with most of the

pottery consisting of ribbed everyday vessels dating from the 1st–4th centuries AD. The composition of this layer (loose, with numerous roof tiles, bricks, chippings, crumbled lime mortar, rough stones, marble tiles, small pieces of architectural members, nails, strips, loomweights, etc.) suggests a disturbed destruction layer, though it was not sealed. The next stratum down is characterized by an abundance of fine-quality pottery from the early Roman period (mainly the 1st century AD) and the Hellenistic era (plates and skyphoi, Italian Sigillata, Eastern Sigillata A, and relief and Cretan-type lamps). This stratum is also connected with the foundation pits of the south and west walls of the *postscaenium*, down to a certain depth, where they penetrated the Hellenistic strata. Apart from the pottery, there was also an abundance of figurines, fragments of glass vessels, various clay objects – the most notable of which were the fragments of actors' face masks (Fig. 10.30) – lead clamps, nails, bone objects, fragments of stone vessels, animal bones, and shells, as well as a large number of roof tiles, which shows that this area was also covered by a tiled roof. A few indicative examples of the numerous bronze coins found in this area are three coins struck at Aptera, a cistophoric coin, and a Tiberian coin. Another notable find in this stratum is the fragment of a bone *aulos* (Fig. 10.31).

The early Roman stratum appears to have disturbed the Hellenistic layers. These were eventually uncovered either at a lower level or between the foundation pits of the walls, except in the easternmost section of the *postscaenium* where the Roman stratum extended over the entire area both horizontally and vertically and had completely eradicated the Hellenistic strata. The overall disturbance in the southeast corner of the *postscaenium* must be due to the carving of a makeshift staircase out of the natural rock. The staircase must have served in the construction of the south wall of the *postscaenium* (see Fig. 10.3). The peculiar feature of the Hellenistic strata, which also extend to the south of the *postscaenium*, is that they consist of pits with pure ash surrounded by burnt clay. The ash pits contained Hellenistic pottery of excellent quality (mostly kantharoi with West Slope decoration, relief skyphoi, some of which bear the signature of the workshop of Menemachos (Fig. 10.32) or Philon, and a Medusa bowl) as well as pottery from earlier periods, particularly of the Archaic era. A characteristic feature was the large number of miniature vessels. Animal bones were found in one of the pits, together with the natural horns of a young ox and arrow heads, which indicate the performance of some kind of rituals or offerings. The immediate proximity of the

Hellenistic strata to the greatest part of the theatre's Hellenistic retaining wall indicates that they were created after the latter and provide a *terminus ante quem* for the original construction of the theatre in the early Hellenistic period.



Figure 10.30 The nose of two clay masks and one miniature mask of Pappasilenos.

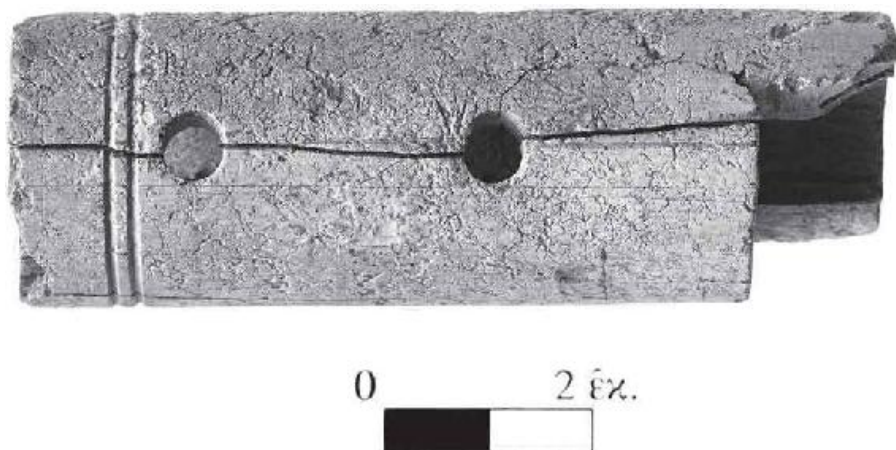


Figure 10.31 Bone flute.

To sum up, the following individual conclusions may be drawn. The pottery that has emerged from all areas of the theatre stands out

for the fine-quality vessels from the Hellenistic era and the early Roman period up to the mid-2nd century AD. This assemblage includes a large number of luxury items, most of which were imported from the main centres of production or were local imitations (Figs 10.33–10.35). A characteristic feature is the large number of miniature vessels in the Hellenistic strata of the *postscaenium*. Apart from these strata, however, Hellenistic pottery was present in the mixed layers in all parts of the theatre. Its presence was strongest in the strata of the 1st and 2nd centuries AD. The pottery from the late-Roman period, on the other hand, was produced in local workshops and consists of everyday vessels. The pottery from the Christian era is relatively limited in number, despite the fact that some parts of the monument were in use during this period.



Figure 10.32 Characteristic pottery from the Hellenistic layer.



Figure 10.33 Italian Sigillata bowls from the 1st Roman phase layer.



Figure 10.34 Italian Sigillata plates and bowls from the 1st Roman phase



layer.



Figure 10.35 Lamps with relief decoration from the 1st Roman phase layer.

The coins come from all periods, from the Hellenistic until the early 4th century AD. Even a few Byzantine coins have been found as well as a coin from the Venetian period in the layer that was cultivated in recent times.

### Building phases

On the basis of the latest available architectural and excavation data, three main building phases may be discerned: the Hellenistic phase, the 1st Roman phase, and the 2nd Roman phase, as marked on the plan (Fig. 10.36).

Following the discovery of the undisturbed Hellenistic strata in the *postscaenium* and their clear dating, it is reasonably safe to conclude that construction work on the theatre at Aptera commenced in the early Hellenistic period. The strong retaining wall to the south of the *scaenae frons*, directly against the south side where these strata lie, forms the outer wall of the Hellenistic *scene*. Theatres usually took years to build, and there was a direct connection between the duration of the construction work and the funding provided by the monument's benefactors (Sear 2006, 11). Unfortunately in the case of the Aptera theatre, it is not possible, at least at present, to determine how long its

construction took on the basis of relevant inscriptions, as is possible for many other theatres. Perhaps the fragment of the Hellenistic inscription built into the masonry of the lime kiln forms part of such a text. The following may also be observed from this building phase *in situ*: the greater part of the retaining walls of the *parodoi*, which were constructed in the same manner as fortification walls; the similarly constructed perimetric retaining wall of the *cavea*, which held in place the earthen substratum; and the substratum itself, consisting of solid red earth and forming the original *cavea* on which the seating rested. To the same phase also belongs the mud-built wall that has been uncovered in the *hyposcaenium*, which is probably the north wall of the Hellenistic *scene*.

The trenches sunk into the foundation pits in the area of the *hyposcaenium* and the *postscaenium* (west and south walls) have provided a *terminus ante quem* of the 2nd half of the 1st century AD for the first modification of the monument (1st Roman phase), mainly through the evidence of the Italian Sigillata pottery and the relief lamps. The work may have started as a result of the major earthquake of AD 46 (Di Vita 1979–1980, 437) or AD 66 (Stiros 2008, 4, 11, 55, 87). The chronology of the first major modification to this phase also coincides with the period of Aptera's general flourishing. A similar case of modification of the monument is that of the Hellenistic theatre at Sparta, where the new *scene* building was constructed in AD 78 (Woodward 1923–1925, 119–56).



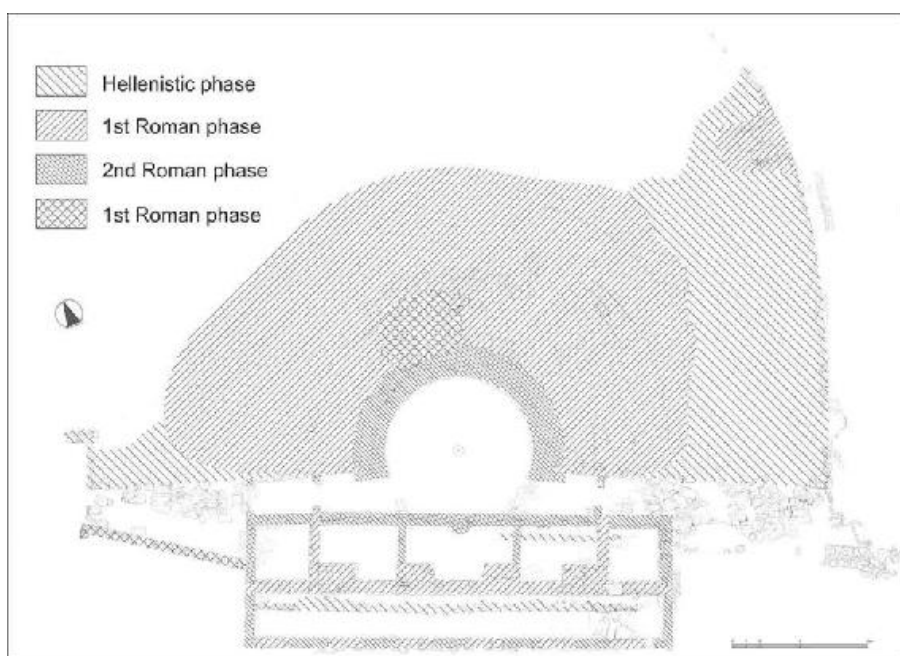


Figure 10.36 Building phases.

The Hellenistic theatre was radically altered in order to serve new spectatorial needs. In the *koilon*, a newly built substructure was created with a steeper slope resting on the Hellenistic earth fill. One cannot exclude the possibility that the seats were re-used. An underground staircase was constructed to the northwest, which led the spectators to the *praecinctio*. The old Hellenistic *scene* was replaced by the more impressive Roman one. The floor of the orchestra was probably lowered. In this building phase, the *cavea* and the *parodoi* acquired their final form, except for the lower structural arrangement near the orchestra (Fig. 10.36). To the same building phase belong the *scaenae frons* and the lateral walls of the stage, the section of wall that has been uncovered underneath, outside the eastern *versura*, and the lowest section of the south wall of the *scene* building.

It is difficult to determine the exact date of the 2nd Roman phase. It may have consisted of alterations that arose as a result of functional changes during the period when the monument was still in use as a theatre. The interventions carried out on the monument in later periods have largely eradicated the excavation data. It is very likely, however, that the alterations of the second phase were executed in the 3rd century AD, judging by the pottery found in the undisturbed areas dating to this period (a trial trench in the *hypocaustum* and pottery from the wall of the *proscenium*). Evidence of the second phase can

be found mainly in the *scene* building, which was radically altered (Fig. 10.36). The *proscenium* and the south wall were replaced. The width of the *versurae* was reduced, and the four pairs of pillars flanking the entrances from the *parodoi* to the orchestra were erected. The lowest section of the *cavea* underwent at least one alteration, this being the one in evidence today.

## Conclusions

By and large, the Roman theatre at Aptera follows a well-organized plan (Figs 10.14 and 10.15). Here we do not find Vitruvius's specifications for the layout of the *cavea* (Vitruvius 5.6.1-7), since he refers to a theatre with six *cunei* and the *cavea* at Aptera has only four. Vitruvius also refers to a theatre with a semi-circular orchestra, while at Aptera the wall of the *proscenium* abuts the perimeter of the orchestra. However, the length of the *proscenium* (20.50 m) is approximately twice the diameter of the orchestra and thus conforms to Vitruvius's guidelines for theatre design. The following points are also worthy of note. The central (third) staircase does not lie exactly on the theatre's axis but diverges approximately 4° to the east. Also, the centre of the *scene* building on the east–west axis does not coincide with the central axis of the theatre but lies approximately 16 cm further east. However, the corners of the *analemmata* lie at an equal distance away from the centre of the orchestra and enclose a semicircle accommodating 25 rows of seats and the *praecinctio*, which must have existed in this area. The reconstruction of the *epitheatron* was based on a duplication of the east perimetric retaining wall on the other side of the theatre's main axis. This form of *koilon* is common in Greek theatres, e.g. the theatres at Delos and Thebes (Sear 2006, 394, 408). With a space of 40 cm for each spectator, the main part of the theatre had 1700 seats and the *epitheatron* had 2000 seats. The total seating capacity was 3700, which places it in the medium-sized category of theatre.

The phases that have so far been identified in the theatre reflect the city's economic and social situation and vice versa, as would be the case in any city.

The dating of the theatre's construction to the early Hellenistic period accords with the findings about Aptera's prosperity during the same period and reinforces the fact that the city was already in a healthy economic state, with a well-organized society that needed a site for social gatherings and public entertainment (Paus. 10.4.1).

From the few sections that have survived, it is clear that the theatre was well constructed. It is the only excavated Greek theatre in Crete, but certainly not the only Greek theatre to have existed, as has occasionally been claimed. The impression that it is the only one is due either to the lack of excavations or to the total destruction of this phase by the following Roman theatre. The only exceptions are the small and singularly shaped theatre at Lato and the evidence of theatres from this period at Gortyn and Lyttos (Di Napoli 2010, 815, 817–8). In the ‘Crete of a hundred cities,’ where the first sites for public spectacles had already been created in Minoan times, no large Hellenistic city could be without a theatre.

It is worth pointing out the strong individual similarities that exist between the Hellenistic phase of the theatre (see above) and that of the theatre at Messene, similarities that can also be found in Aptera’s other monuments. This is logical not only because of the geographical proximity of the two cities but also because of the long-standing relationship that had existed between them as early as the Archaic period (Paus. 4.20.8).

The theatre’s historical development was typical of that of ancient Greek theatres in that it was modified during the Roman period to meet the new standards and needs of the age. Apart from the decisive structural changes that were carried out, the theatre was also integrated into the city’s urban fabric. Its proximity to the forum to the north, the large temple to the east, and the wealthy residences that have been identified and partially uncovered to the west, indicates that this quarter of the city was an opulent one (Themelis 2010, 37).

Although in the rest of Greece there are numerous examples of theatres that functioned from the Hellenistic period up until late antiquity, in Crete, apart from Aptera, there is only the example of the *bouleuterion* at Gortyn, which was converted into an *odeion* (Sanders 1982, 65–6). All the other known theatres are entirely Roman constructions, with a *cavea* supported on strong piers and radial walls and vaults (Ciancio Rosseto and Pisani Sartorio 1994, 159–87; Sear 2006, 294–9). Typical examples of such theatres are those at Gortyn, Hierapytna, and Chersonisos (Mandhalaki 1999, 244–58; Montali 2006; Di Napoli 2010, 814–26). The theatre at Aptera bears no resemblance whatsoever to these constructions. Its built substructure is constructed without mortar except for a thin layer serving as a bedding for the seats. Nevertheless, the first Roman phase of the *scene* stands out for the solidity of its construction – strong foundations and

a superstructure of *opus testaceum* – and its strong binding mortar. It is unfortunate that no more evidence has survived of the decoration of this building phase – perhaps the fine architectural members re-used in the footrests of the lowest row of seating belong here – which appears to have reflected the level of prosperity enjoyed by the city at this time and is reminiscent of the other large public buildings in the city, such as the triple-vaulted cistern and the corresponding bath-house complex.

In contrast, the architectural remains of the last building phase of the theatre do not follow the same logic. The quality of the walls is inferior, the mortar is much weaker, and the architectural elements are not fully worked, with the result that plaster is required to play an important role in the final formation of the surfaces. Despite this, there is a tendency to renew older elements, which is evident in the alteration of the lowest section of the *cavea* and the construction of the *tribunalia*.

The small orchestra could belong to an *odeion*, but the monument's other architectural elements and, above all, its size does not support this interpretation. It is possible, though, that the theatre was intended mainly for musical performances; it certainly could not have accommodated gladiatorial contests or games with wild beasts. The city's size and that of the theatres required for such contests suggest perhaps that a second theatre more suitable for such spectacles should be sought.

The Roman theatre built on top of the Hellenistic one adopts the 'modern' standards of the eastern Empire, mixing them with the pre-existing local features. The end product of such a mixture always possesses certain local peculiarities, a fact that has already been observed in other monuments in Aptera.

The results of the investigation of the theatre have revealed that Aptera was one of the most important cities in Crete. The fragments of the three inscriptions that have so far been found – one Hellenistic and two Roman – may mention benefactors who funded the construction of the monument. The ongoing work at the site may shed further light on the monument and provide new data for further study.

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## Roman Gortyn: from Greek polis to provincial capital

*Enzo Lippolis*

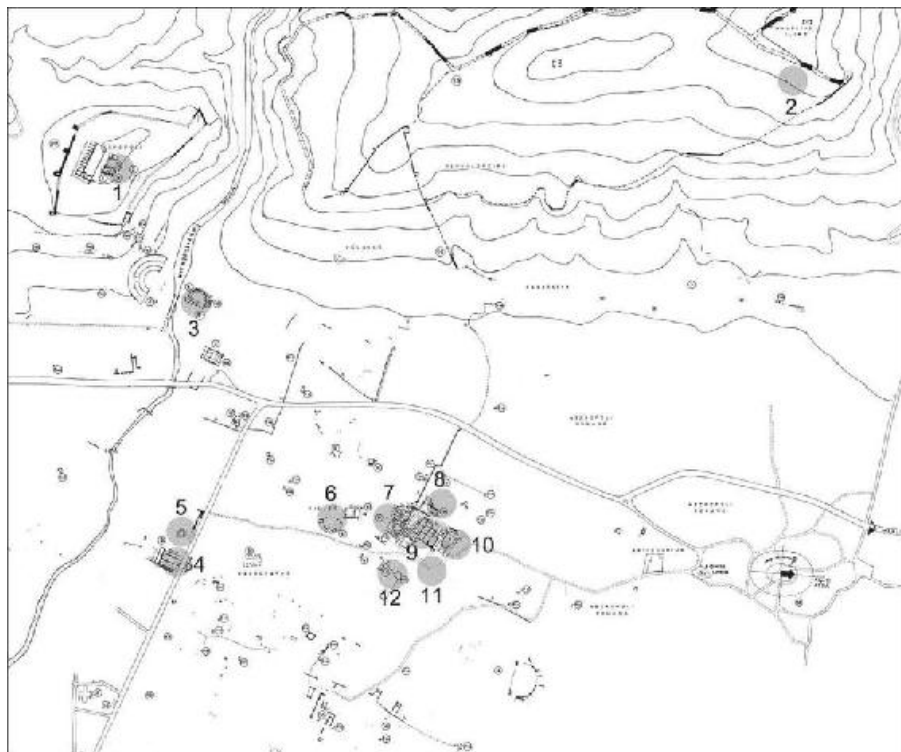
Since 1982, the year in which I. F. Sanders published his work about the island of Crete in the Roman period, our knowledge about the polis of Gortyn has increased considerably both through field research and publication of previously excavated material (Fig. 11.1). The excavations, conducted or co-ordinated by the Scuola Archeologica Italiana di Atene and carried out by teams from various universities, have included the Acropolis, the Agora area, and especially the area around the shrine of the Pythion, but also the extra-urban areas, such as the slopes and summit of the hill of Prophitis Ilias.

Between 1983 and 1989, A. Di Vita directed the excavations of the so-called Byzantine Quarter (Fig. 11.1, no. 7) and discovered a town marked by continuous occupation, particularly between the 5th and 7th centuries AD. From 1989 to 2000, he expanded the excavations to the neighbouring block, called the ‘Praetorium’ (Fig. 11.1, no. 9); the results of this research have been published in the *Atti della Scuola*, the *Annuario della Scuola archeologica di Atene e delle Missioni italiane in Oriente* (Di Vita 1988–1989 to 1999–2000). Between 1997 and 2000, the stadium (Fig. 11.1, no. 11) was discovered and partly excavated (Lippolis 2004), and between 1990 and 1999 excavations were made at Temple B (Di Vita 2010, 210–24). The temple buildings (Fig. 11.1, no. 10) are known in the scholarly literature by different names, but they are here identified alphabetically: Temple A is the Temple of the *Caput Aquae* or the ‘late-Hellenistic temple’ in the block of the *nymphaeum* to the north of the so-called Praetorium; Temple B is east of the ‘Praetorium,’ known as the Temple of Augustus or the Temple at the ‘Praetorium.’ Between 1996 and 1997, important surveys were conducted in other districts of the city, in the area of the *odeion* and in the Agora (Fig. 11.1, no. 3) (Di Vita and Englezou 2004; Di Vita 2010, 95–106; Di Vita and Rizzo 2011), and between 1991 and 2006 the large Mitropolis Christian basilica (Fig. 11.1, no. 4) was identified and investigated (Farioli Campanati 2001; 2004; Baldini 2004; Farioli Campanati and Borboudakis 2005; 2006; Baldini and Vallarino 2012).



A new phase of research was initiated in 2001 with the direct participation of numerous Italian universities, each of which has investigated specific areas of the city: the group from the University of Milan has explored the Acropolis (Fig. 11.1, no. 1) (Bejor and Sena Chiesa 2003a) and a bath building to the south of the 'Praetorium' (Fig. 11.1, no. 12) (Bejor and Sena Chiesa 2003b; Bejor *et al.* 2004); the University of Padua is focused on the *odeion* near the Pythion (Fig. 11.1, no. 6) (Bonetto 2001; Bonetto *et al.* 2002; 2003; 2004; 2009); the Universities of Macerata (Fabrini 2003) and Siena (Zanini 2001; 2004a; 2004b; Zanini and Giorgi 2003; 2006; 2009) performed systematic research for the first time in the Byzantine Quarter (Fig. 11.1, no. 7); the University of Rome addressed the block north of the 'Praetorium' (Lippolis *et al.* 2003; Baldini *et al.* 2005; Baldini 2010); and the University of Palermo examined the extra-urban Prophitis Ilias hill (Fig. 11.1, no. 2) (Allegro 1991; 2004). These activities were augmented by the participation of the local Ephoreia and were conducted directly or in collaboration with external researchers, as in the case of the baptistery of the Mitropolis cathedral (Ricciardi and Borboudakis 2006; Ricciardi 2009). Studies have also appeared on specific monuments and classes of material, all of which have considerably increased the scientific literature about the site (e.g., Romeo and Portale 1998; Johannowsky 2002; Montali 2006).

Most of the publications on individual classes of artefacts, monuments, and comprehensive works on the subject, directly or indirectly, were produced by Antonino Di Vita, who co-ordinated the long recovery and interpretation of the archaeological site of Gortyn with unusual commitment and regularity. He unfortunately left several scholarly works unfinished, to which must be added the project of mapping the archaeological survey and the interpretation of the broader urban area, both essential tools for understanding the historical reality of the ancient city.



*Figure 11.1 Plan of Gortyn with investigated areas: 1. Acropolis; 2. Profitis Ilias hill; 3. Odeion of the Agora; 4. Basilica of Mitropolis; 5. Baptistry of Mitropolis; 6. Odeion of the Pythion; 7. Byzantine Quarter; 8. Insula of the Nymphaeum and Temple B; 9. 'Praetorium'; 10. Temple A; 11. Stadium; 12. Baths.*

An understanding of Roman Gortyn therefore relies on a considerable amount of data from diverse fields of research; the only recent attempt at synthesis, by Di Vita, examined the complex problem of the urban settlement and its history over time, from the Archaic to the Byzantine periods (Di Vita 2010). Starting with this study, it will be possible to address more specifically the issue of the polis in the Roman period and to discuss issues and problems that have emerged from the extensive bibliography.

## **The historical context**

Gortyn experienced significant development during the 3rd century BC, when it continued its earlier territorial and political achievements. This accelerated process of community growth now placed it definitively among the principal centres of the island and established the need for a new codification of internal institutional and social structures. Expansion took place mainly in the surrounding territory,

at the expense of the small- and medium-sized towns included in or subordinated to the *chora* of the city. Between the 3rd and 2nd centuries BC, links were strengthened or established with Amykleion, Matala, Phaistos, Lebena, Lasaia, and Rhaukos. These settlements, as others, constituted a large dependent territory, and the polis experienced population growth and urbanization consistently throughout the Hellenistic period and into the first century of the empire. A series of positive policy choices also led Gortyn to establish a favourable relationship with the Roman federation; this process allowed Gortyn to become the administrative capital of the island of Crete.

A decisive moment for Gortyn came between 221 and 219 BC, when the city participated in a war against Lyttos alongside Knossos and their respective allies. During this conflict, a clash broke out in the city between the dominant oligarchic class and the 'reformist' group of the *neoteroi* due to differing political views. Until this time, the community had experienced long-term stability, but the convulsive occurrences of the 3rd century BC tied to intense military and political expansion must have caused social and economic transformations that could not have been managed by the polis' oligarchic system of government, by that time anachronistic.

The crisis took on a dramatic aspect, and the town was soon occupied by a body of Aetolians – mercenaries of Knossos who had been given command by the oligarchic party. The *neoteroi*, who had been driven from the city, were able to capture certain strategic locations, such as the ports of Lebena and Matala, the former still officially belonging to Phaistos. We know only some episodes in the long and complex sequence of events, much of which remains unclear, and research has revealed significant uncertainties in the interpretation of the facts (Polyb. 4.53–55; Chaniotis 1996; 1999). Di Vita (2010, 61–2) did not completely agree with this explanation, but revived Manganaro's suggestion (1978) that the *neoteroi* had occupied both Matala, which was the port of Phaistos, and the port of Lebena. He believes that a civil war had developed between new and old citizens; however, the term 'citizens' is here understood respectively as the Gortynians and the inhabitants of Phaistos, a city that had entered into a *sympoliteia* with Gortyn at an unspecified time, albeit close to this date. The fact that the *neoteroi* appear in other instances and are identified as a pro-democratic political force is appropriate to the situation at Gortyn in different cases, but it is not possible to discern

on the basis of the limited available data whether the final constitution introduced forms of real or only formal democracy, or made only a few concessions. The case for a traditional, oligarchic management certainly remains substantial, but perhaps with changed functions. In the second half of the 3rd century, new magistracies and a new bronze coinage were introduced (IC IV.162), clearly indicating a period of fairly rapid transformation. Similar difficulties also seem to have affected other cities of Crete in the same period, such as Knossos, which was abandoned by some of its allies, and Dreros, which was also hit by a *stasis* (Chaniotis 1999, 292–3), thus showing the effects of a more general process of transformation.

The recovery from this civil crisis seemed to coincide with a period of strong and progressive success for Gortyn, which also went through a strong urban renewal. The city took a leading role within the institution of the *Koinon* federation of the Cretans established in the first half of the 3rd century BC, in which Gortyn and Knossos, in the role of dominant centres, participated with their respective allies. In 217–216 BC, Philip V of Macedon was recognized as *prostatis* (patron) of that same league, which at that time was led by Gortyn; between 205 and 201 BC, Cretans and Spartans sided with Philip V against Rhodes, and by 237–236 BC there had already been a treaty between Gortyn and its allies and Demetrios II of Macedon (IC IV.167). At the same time, however, Gortyn also forged relationships with the Ptolemaic kingdom, particularly during the reign of Ptolemy Philopater (221–204 BC), who participated in the plans for Gortyn's urban renewal by financing the construction of one part of a defence wall (Strab. 1.462).

Between 216 and 205 BC, Gortyn formed alliances with Hierapytna and Priansos in the east (Guizzi 2001, 355, 384–402; Di Vita 2010, 57), and between 200 and 189 BC with Sybrita, Lappa, and Elyros to the west (Chaniotis 1996, no. 31; Di Vita 2010, 57). On another level, inscriptions attest to treaties with the smaller towns of Amykleion (IC IV.172) and Kaudos (IC IV.184a–b), communities that were, in essence, dependent poleis (Chaniotis 1996, 69, no. 66; Di Vita 2010, 57–8).

The eclipse of the international role of Macedon due to the clash with the Roman federation introduced a new protagonist to the Aegean and probably strengthened Gortyn's link with the government of Alexandria. As early as 197 BC, the Gortynians appear alongside T. Quinctius Flaminius and Attalus against Philip V, ushering in a long

tradition of political philo-Romana (Liv. 33.3.10). The stable relationship with Egypt also intensified during the reign of Ptolemy V Philometer, who, for example, sent Egyptian troops to the rescue of the community in 163 BC (IC IV.195; Guizzi 2001, 391–3; Di Vita 2010, 60).

In 189 BC and in the course of another war that saw Gortyn and Knossos allied against Kydonia, the Romans decided to settle the conflict by sending to Crete Q. Fabius Labeo, who alone at Gortyn succeeded in obtaining the return of the Roman and Italian prisoners throughout the island, who numbered around 4000 and were perhaps victims of Cretan piracy (Liv. 37.60.5–6; Di Vita 2010, 59). The Roman magistrate did not manage to capture Hannibal, who was in flight after the battle of Magnesia ad Sipylum in 190 BC and had temporarily repaired to Gortyn, because of the timely escape of the Carthaginian (Nep. *Hann.* 9; Just. 32.4.3–5; Di Vita 2010, 59). In 184 BC, another Roman magistrate, Appius Claudius Pulcher, served as a mediator between Gortyn and Knossos, which demonstrated an even more effective interference of Rome into the internal affairs of the island (Di Vita 2010, 60).

The territorial, political, and diplomatic expansion of Gortyn seems to have been fairly constant over the course of the 2nd century BC. A *sympoliteia* was concluded with Phaistos before 183 BC (IC IV.165; Chaniotis 1996, nos 24, 27; Di Vita 2010, 57), which decreed a subordinate position for the latter, before losing its status as polis towards the middle of the century. Phaistos was permanently abandoned, with the exception of a few structures, and some of the people of Phaistos may have been transferred into the Gortynian urban area, as in other analogous cases. Between 170 and 165 BC, military engagements continued along the north coast, and wars were waged first against Kydonia and then against Knossos, which concluded in 166–165 BC with a treaty for which Ptolemy Philometer acted as mediator, dividing up the territory and the city of Rhaukos, modern Aghios Myron (Polyb. 30.23.1; Di Vita 2010, 59).

The activities of pirates and the endemic conflicts on the island, which even in 121–120 BC continuously involved Gortyn and Knossos, forced the Romans to even more direct intervention and ended with the expeditions of M. Antonius Creticus and Q. Caecilius Metellus, who between 69 and 67 BC finally defeated the resistance of the Cretan *Koinon*, an opposition in which Gortyn does not seem to have participated (Guizzi 2001, 407; Di Vita 2010, 60). The new praetorian

province of Crete, created in 67 BC, followed by a few years the occupation of Cyrenaica, which had become a province a little earlier, in 75 BC. The two regions, already bound by prior relations, were intended to share the same administrative position, an issue resolved by the creation of the new province of Crete and Cyrenaica, which was maintained until the reforms of Diocletian's empire (Lintott 1993, 11; Chevrollier, this volume).

During the civil wars, the island was assigned first to Brutus and then to Marc Antony, who in 44 BC reorganized the *Koinon* and put a Gortynian named Kydas in charge. Kydas ran the federation with the position of *Cretarch* and with the role of governor; he also issued coinage (Rouanet-Liesenfelt 1984; Di Vita 2010, 60–1). Cicero lamented this situation, going so far as to consider it a true and proper block to the provincial state of Crete (Cic. *Phil.* 2.39.97). The policy of Gortyn, in any case, seemed to have been oriented towards the early party of Octavian, who in 27 BC re-organized the province as one controlled by the senate and assigned to Gortyn the role of the capital, which it maintained through the imperial period and beyond.

There is little available information, however, about the succeeding phases: by now, Gortyn was the stable seat of the Cretan *Koinon* as well as of the Roman government, and it seems to have regained its stability. In the middle of the 1st century AD, a devastating earthquake hit the island, whose effects can be recognized even at Gortyn (*Suda* s.v. Diktys; Philostr. *Vita Apoll.* 4.34; Romanelli 1967, 846); Papadopoulos (*et al.* 2010) records the difficulties in specifying the exact chronology and considers the different proposals of AD 46, AD 53, AD 62, and AD 66. From 5 December AD 34 to May of AD 36, Vespasian, the future emperor, held the position of superintendent of the province of Crete and Cyrenaica (Levick 1999, 9), and this was perhaps an opportunity for a close relationship to develop between the island and the Flavian family. This issue has been discussed by Romeo (2010), who addresses the development of local identity within the political culture of the empire; the archaeological evidence, however, does not yet offer sufficient documentation for defining the nature and scope of the relationship between Crete and the Flavian dynasty. In the case of Gortyn, it should be remembered, the spread of the *nomen* Flavius can be taken an indication of a grant of citizenship, and the rebuilding of the temple of Egyptian Gods, or at least the *oikos* identified in the excavations, was supported by a Flavia Phylira. To the Italic-Cretan entourage of the emperor belonged, for example, the

provincial *quaestor* of AD 67–68, A. Larcius Quirinus Lepidus Sulpicianus, who in AD 70 was a legate to the *Legio X Fretenis* in Judaea as a substitute for Trajan, and then a legate in Pontus and Bithynia, where he died. Scholars (Reynolds 1982; Baldwin Bowsky 1987) attribute Italic origins to this individual, even though he was born in Crete, to A. Larcius Gallus and Sulpicia Telero. The family would have achieved the honour of the consulate with his son, A. Larcius Quirinus Priscus, all of whom were descended from a L. Larcius Laches of Anzio, former proconsul of Crete and Cyrenaica, demonstrating a tight and ancient bond with the island. A. Larcius Quirinus Lepidus Sulpicianus thus belonged to a family of senatorial rank. This family and that of the Rosci (*IC* IV.292; *IC* IV.296; *IC* IV.297; Reynolds 1982, 674–7; Di Vita 2010, 64) have been recognized as the only local *gentes* to have reached such a rank, but this is no longer accepted for Larci. Already in the Augustan period, but especially in the 2nd century AD, a limited number of families of vast economic possibilities seemed to prevail in the city and on the island, which were linked with property ownership of the *latifundia* type. When Hadrian established the *Panhellenion*, Gortyn became a member and twice obtained the presidency of the assembly, with T. Flavius Xenion and M. Ulpius Sebon serving as Panhellenic archons (*IC* IV.300; *IC* IV.326; Melfi 2004, II, 522–9; Di Vita 2010, 64). The emperor Hadrian may have visited Gortyn during his visit to Crete in AD 122, although there is no concrete evidence for this.

Another *quaestor*, Publius Septimius Geta, brother of the emperor Septimius Severus, may have provided the means for a good relationship with the Severan dynasty at a time when Gortyn was still marked by considerable urban growth. Only with Diocletian and Constantine did the city begin a new phase due to the re-organization of the imperial administration and the new territorial definition of the Cretan province, but it remained the capital of the island.

## **Regional and urban administration**

The city combined four administrative levels: the community itself; the *Koinon*; the provincial administration; and the autonomous organization of Roman citizens resident in the city and on the island. In the first case, the pre-Roman institutional system was maintained, at least for a certain period. The city was governed by a board of high-ranking magistrates, the *kosmoi*, which gave expression to the *boule*, the council of reference for other magistrates with more specific

jurisdictions. The seat of this bureaucracy in pre-Roman times was located in the Agora and included at least two buildings, both of appropriate form for assemblies. One of these structures was quadrangular while the other was circular; the second was built according to a probable Spartan model (Lippolis 2011). Only one of these buildings survived into the Augustan age, namely the complex transformed in the 2nd century AD when it acquired the architectural form of an *odeion*, but it seems to have maintained its original function as the seat of the civic *boule*. The addition of a circular side wall with a complex legislative inscription from the mid-5th century BC on the *peribolos* of the *cavea* support (IC IV.72) shows both the desire to create a close relationship with the city's past institutional traditions and also the need for a specific qualification of the monument that was connected to deliberative function.

The federal *Koinon* had existed before the Roman occupation and it seems to have been updated in the era of Marc Antony (Rouanet-Lisenfelt 1984). In AD 27, Gortyn became its permanent seat, which in the past seems to have been held alternately by either Gortyn or Knossos. It was somehow linked with the cult of Diktyнна, a native deity of the island and one whose principal sanctuary, located in the territory of Polyrrhenia on the north coast of Crete, had been recognized as having a pan-Cretan identity. Neither the organization nor the possible continuity of this body is clear, but it was traditionally chaired by a leading city, either Gortyn or Knossos. First conceived in the first half of the 3rd century, the *Koinon* seems to have been re-organized at the time of the war against Lyttos and it continued into the 2nd century; it was then restructured again under Antony in 43 BC (Rouanet-Liesenfelt 1984; 1994; Di Vita 2010, 59). It certainly had different institutional forms during the three periods in which it is attested: the phase prior to the Roman conquest; that of the regency of Kydas; and finally that of the Augustan re-organization. It always lacked specific military bureaucracy or federal magistracy, but it may have provided for an assembly, perhaps only in its pre-Roman phase, and a *synedrion* with a president and common rules for the resolution of conflicts between communities and private entities (*diagramma*); the system also included a kind of federal court, the *koinodikion* (Chanotis 1999, 287–99; Guizzi 2001, 365–6; Di Vita 2010, 59).

Aside from the brief period of Kydas, who governed the *Koinon* as *Cretarchas* from the reign of Augustan onwards, the main change is to



the position of *Archiereus*, both eponymous and annual, which was connected to the cult of Rome and Augustus, as in the case of analogous organizations in other eastern provinces of the empire (Rouanet-Liesenfelt 1994). The *Koinon* issued coinage up to the end of the rule of Septimius Severus, and the sanctuary of the goddess Diktynna had its own available funds apparently managed by that same emperor (IC IV.333; IC IV.334). The urban space that housed the seat of the *Koinon* may have been the Sanctuary of the Pythion, as has already been proposed (Rouanet-Liesenfelt 1994, 19–20), but it has also been associated with other monuments, such as the theatre on the slopes of the Acropolis (Di Vita 2010, 68, n. 245). However, it seems that the Pan-Cretan games held every four years connected with the *Koinon* under the magistracy of the *Archiereus* were dedicated to Zeus and Apollo Pythios (Rouanet-Liesenfelt 1994, 22–5). These games, originally known as *isolympic*, became also *isopythian* in the imperial age, perhaps because of their allocation to the sanctuary of Apollo Pythios at Gortyn rather than as a general reference to an important deity in the Augustan political landscape. Four new Gortynian inscriptions of the Hadrianic period for the victors of these games were also set down at this time (Magnelli 2001, 635–41); the display of an inscription dating to the last decades of the 3rd century BC indicates the Gortynian Pythion as a privileged place. The hypothesis of a close relationship between the area surrounding the Pythion and the seat, or one of the seats, of the *Koinon* and other groups has not always been accepted (Di Vita 2010, 68, n. 245; 72–4); Di Vita (2010, 76), however, acknowledged the Pythion as the religious seat of the *Koinon*. It is very likely, therefore, that this very sanctuary was the representative location of the *Koinon* in the city (Chaniotis 1999, 292).

The needs of the provincial administration also included the jurisdiction of Cyrenaica, with a proconsul as government official (Pautasso 1994–1995), a *quaestor*, and other associates, but any physical elements for identifying the space and forms of such a body are lacking. The most central public area, that around the Agora, may have accommodated some of the functions of these magistrates, such as judicial tasks, but the spaces representative of imperial power may have assumed different forms, and their urban locations cannot be identified. The ‘Praetorium,’ the administrative seat of justice connected with imperial management, is known only since the 4th century AD; this was located far from the Agora, but close to the baths of the Pythion sanctuary. This setting can also be tied to the gradual loss of interest in the Agora, an area strongly characterized by pagan

monumentality, in the favour of an area more ‘neutral’ in terms of its visibility and which was becoming more central with the expansion occurring in the city after the developments of the imperial age.

The first centuries in the life of the province, moreover, also attest to the existence of a *conventus civium romanorum* administered by *curatores* and equipped with its own revenues. This was an autonomous organization similar to those in other parts of the empire, of which little, however, is known (Romanelli 1967, 842–3). The importance of the city and its very appeal are closely related to the administrative functions that took place there and which made Gortyn the real centre of political, economic, and cultural life on the island.

### The worship system

Despite a wealth of information, we lack both a comprehensive view and the possibility of a clear definition of the cultural expression of the city. The pantheon of the polis formed in the Archaic period seems broadly to have continued even after the Hellenistic period, although some alterations were made for the addition of new cults, for the loss of functionality of some traditional ones, and even for the radical changes in the forms of ritual practices, as shown by written sources and material evidence.

Athena remained the goddess Polias, alongside Zeus, in the specific local version of the god on Mount Ida, where the shrine in the cave was managed by the Gortynian community (IC IV, p. 36; IC IV.80; IC IV.146). The principal location of both cults, attested since the prehistoric period, was the Acropolis in the centre of the original settlement (Fig. 11.1, no. 1). Another deity with an important role in the political life of Gortyn, as we have seen, was Apollo Pythios, who was worshipped in a sanctuary located on the plain, far away from the Acropolis–Agora nucleus (Fig. 11.1, no. 6).

The cult of Artemis, known in the 5th century as *Toxia*, is also documented (IC IV.72, lines 7–9; Cucuzza 1997); it was joined by the veneration of the local Britomartis, always considered to have a close relationship with Artemis, to overlap with, or to be dependent on her. Leto played a crucial role, and her principal place of worship was located at the southern edge of the town. *Decretes* of manumission were found in that area, which can be connected to this sanctuary (Magnelli 1998). She seems to have presided over the management of groups lacking political rights, either in part or completely, and afterwards showed a connection with the pre-Doric environment of

the Mesara. An indirect confirmation of this role of Leto may be seen at Phaistos in the *poliadic* function assumed by this goddess, which was more related to earlier traditions (Cucuzza 1993). An *oikos* of Hera is also known at or near the Gortynian sanctuary (Magnelli 1998).

Other deities are on the whole less known. The cult of Hermes is attested, perhaps situated between the Acropolis and the Agora (*Etymologicum Magnum*, s.v. *Edas*; IC IV.30; IC IV.36; IC IV.51), as are the nymphs Geraistiades, the nurses of Zeus (*Etymologicum Magnum*, s.v. *Nymphai Geraistiades*; IC IV.36), but in each case evidence is lacking for their identifying conventions and locations.

By the end of the 4th century BC, the worship of Asklepios assumed a special importance, in close association with the sanctuary of the god located in the southern port of Lebena (Melfi 2007; 2009). The urban version of the cult can be considered a branch of the latter, and it may have been situated in the area immediately to the east of the Agora. The worship of Egyptian gods is known from the first half of the 2nd century BC, thanks to the dedications made by Pyroos, an archer with two quivers and a shield, which allows us to identify the worshipper as a mercenary connected to the Ptolemaic world (IC IV.243; IC IV.244; Di Vita 1994–1995; 2010, 129; Magnelli 1994–1995;). The social significance of this individual is not clear, nor the nature of the first systematized shrine, but the dissemination of the cult and its political and propagandistic values are evident.

The dedication of an altar in an area developed between the end of the 1st and early 2nd century BC attests to the worship of *Theos Hypsistos*, which is also present elsewhere, as at Cyrene (Rizzo 2004; Di Vita 2010, 205–9). Varied forms of the imperial cult are also evident from the Augustan age; this cult was probably practiced in different contexts in the city and its territories. A group of statues of the Julio-Claudian imperial family and several inscriptions from the Agora suggest that the main cult centre may have been in that area (Romeo and Portale 1998, 286–336; Di Vita 2010, 64), but there may also have been exhibition spaces by consent in other sacred places, as shown by the widespread distribution of imperial statues. Confirmation of a long-term cult and of the development of a hierarchical system of priesthoods, as in other cases, comes from a request to Tiberius to grant the right of *asylia* for a statue of Augustus in AD 22, which was certainly located in the sanctuary of the provincial capital; this attempt ended with a negative response (Tac.

## The urban landscape

As we have noted, the city experienced great development in the last two decades of the 3rd century BC. Recent excavations are revealing that the real re-foundation of the settlement began in this period and that it involved a major re-organization of the main public spaces and the first phase of expansion, with a consistently uniform road system. The rest of the city, however, seems to have been divided into areas with different orientations or with irregular urban planning that resulted in a composite system betraying the complex evolutionary history of the centre. The stages and appearance of this growth cannot be more precisely defined, but we must limit ourselves to reconstructing some essential elements.

The eastern neighbourhoods and the area of the Agora show a strong urban renewal from the end of the 3rd century BC, with the creation of new monumental areas that were equipped and constructed gradually over the two successive centuries. That this process was aimed at an intentional urban revitalization is also indicated by the diligence directed at the construction of the city walls, the subject of donative Ptolemaic acts and left unfinished due to the difficulty in closing in the vast expanse now occupied by the inhabited centre in a functional manner; Strabo (10.4, 11) cites Ptolemy IV Philopater as having funded only eight *stadia* of the walls (Allegro and Ricciardi 1999; Di Vita 2010, 147–50). The refurbishment of these defences on the heights to the north occurred in the first half of the 1st century BC but was then ultimately abandoned in the Augustan age (Allegro and Ricciardi, 1999; Di Vita 2010, 147–50).

There are four main parts to the Hellenistic city. The district northwest of the Acropolis (Fig. 11.2, no. I) was distinct from the rest of the town and occupied the hill of Aghios Ioannis (267 m above sea level), to the right of the Mitropolianos River, the ancient Letheus River. This sector, naturally defended and bordered by deep valleys, dominated the plain and some of its important access routes, with a strategic function that seems to have been behind the development of a village located there since the Late Minoan III B/C period (13th century BC) (Di Vita 2010, 17, with references). The summit was occupied by the sanctuary of Athena, with structures that have been dated from the Orientalizing period and later (D'Acunto 2002). The

urban area is irregular and was built on concentric terraces following the contours of the rise, which is characterized by steep slopes.

The area of the Hellenistic Agora ([Fig. 11.2, no. II](#)) was developed on the southeastern slopes of the Acropolis that straddle the Mitropolianos River. The public square extended on the left side of the water course, while a series of public structures has been defined on the right side. We know only the monumental phase of these from the imperial period, but they may have had an earlier phase at least in the Hellenistic period. Between these emerges the great bulk of the theatre, which used the slopes of the Acropolis hill and opened to the west, in the direction of the public square (Di Vita 2010, 271–2). A central element of this sector seems to be the partial covering of the river, which, only in the early imperial period, finally allowed a better connection of Gortyn with the main road leading from the city to the west, in the direction of Phaistos and the ports of Matala and Kommos.

The Agora stands in an intermediate area between the Acropolis and a range of hills of the same height, which includes two distinct peaks (Pervolopetra – Armi, 348 m above sea level, and Prophitis Ilias, 379 m above sea level) and an extensive slope. Little is known of this area ([Fig. 11.2, no. III](#)). Surface survey has shown an intensive domestic use with phases of imperial and proto-Byzantine occupation, although these could be earlier, judging from a rebuilt road system laid out in an irregular manner. Even here, the system for the use of space seems to have been based on a series of parallel terraces erected towards the higher part of the range of hills. The hilltop, without associated settlements, accommodated the defence system already mentioned. These walls, which were executed over a fairly long period of time, were abandoned beginning in the reign of Augustus and, in fact, perhaps had already collapsed in the years around 30 BC (Allegro and Ricciardi 1999).

The plain immediately below, to the east of the Agora and to the south of the afore-mentioned hills, seems to have been the central zone of the city ([Fig. 11.2, no. IV](#)), with occupation that lasts into the 8th century AD. This was an area of numerous monumental interventions in the imperial period and was marked by the crossing of the great aqueduct arches of the proto-Byzantine period, which divided into three branches and descended along the main roads. At the eastern limits of this area was placed the great sanctuary of Apollo Pythios, an important focal point since the 7th century BC and in use

up to the 4th century AD.

These four principal areas seem to have expanded into two, further and distinct yet more peripheral areas in the Hellenistic and imperial periods (Fig. 11.2): a large urban district was settled to the east and the southeast (Fig. 11.2, no. V), and another was established to the south, next to the left bank of the Mitropolianos River (Fig. 11.2, no. VI). In the first case, an urban complex of the imperial age was planned; this is generally dated to the 2nd century, but it was certainly begun between the late-Hellenistic and Augustan periods. In the second area, a more spontaneous development was probably built around the axis crossing the city, pushing towards the centre of the Mesara. This pathway, which came out from the urban area, crossed the Geropotamos River and headed up to the mountains on the south of the island, the Asterousia, crossing them at the point where the village of Apesokari now stands, and then reaching the south coast with the ports of Lasaia and Lebena. Suburban occupation seems to have increased along its route from the 3rd century BC, with necropoleis and settlements becoming denser as one entered the heart of the city. A period of stagnation seems to follow the development of the 2nd–1st centuries BC, while a more intense and systematic recovery is observed after the 4th century AD, when this area develops into the main Christian part of the city (Baldini 2001; 2011; Di Vita 2010, 74–5). This urban sector can be identified as the Latosion, which took its name from the temple of Leto and had a population consisting mainly of people from outside the community or of subordinate rank (Di Vita 2010, 39, 75).

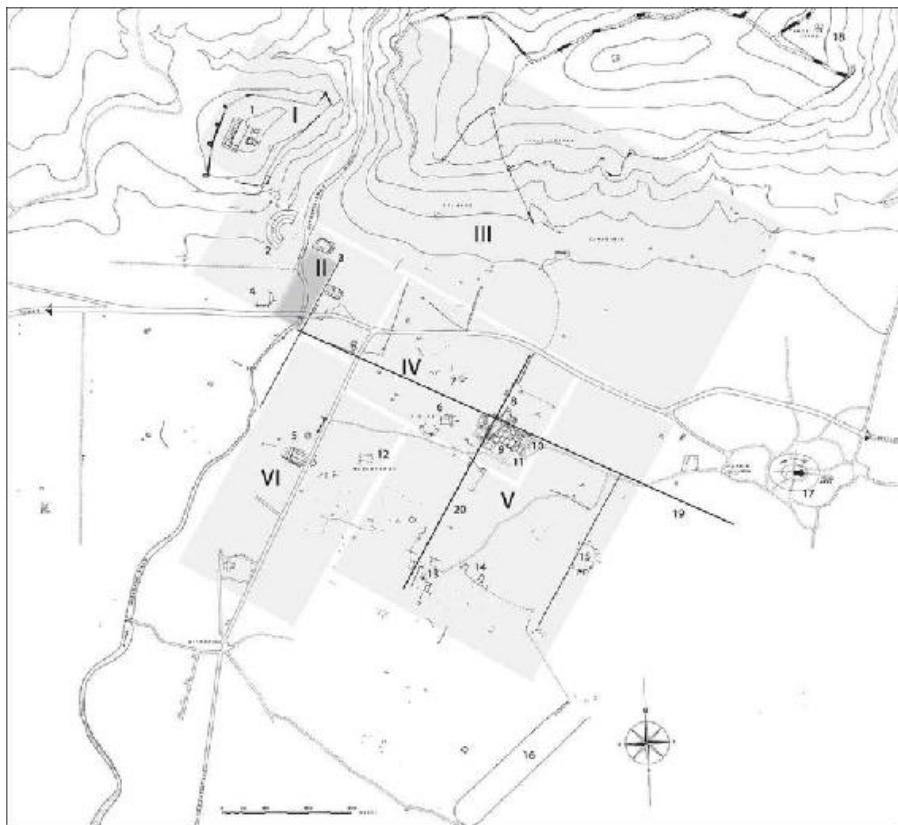


Figure 11.2 Plan of Gortyn.

Farther away, scattered settlements can be recognized but have not yet been clearly integrated into a systematic interpretation of the territory: the centre of the village of Agioi Deka coincides with the Roman amphitheatre (Di Vita 2010, 294–8), which dates to the second half of the 2nd century AD and was separated from the city by a monumental necropolis. Farther north, towards the hill of Prophitis Ilias, were identified necropoleis and several areas of occupation, with a probable *thesmophorion* (Allegro *et al.* 2008; Di Vita 2010, 94). A settlement of the Geometric and Archaic periods developed on the higher slopes of the hill of Prophitis Ilias and below the summit, which was completely abandoned in the mid-6th century BC (Allegro and Papadopoulos 1997, 275–81; Allegro 2004, 535). The Hellenistic fortifications and a complex of four rooms recognized as a place of a hero cult arose in this area (Di Vita 2010, 94). This was followed by only isolated evidence from the Hellenistic period.

### The urban development

The development described above, which continuously and

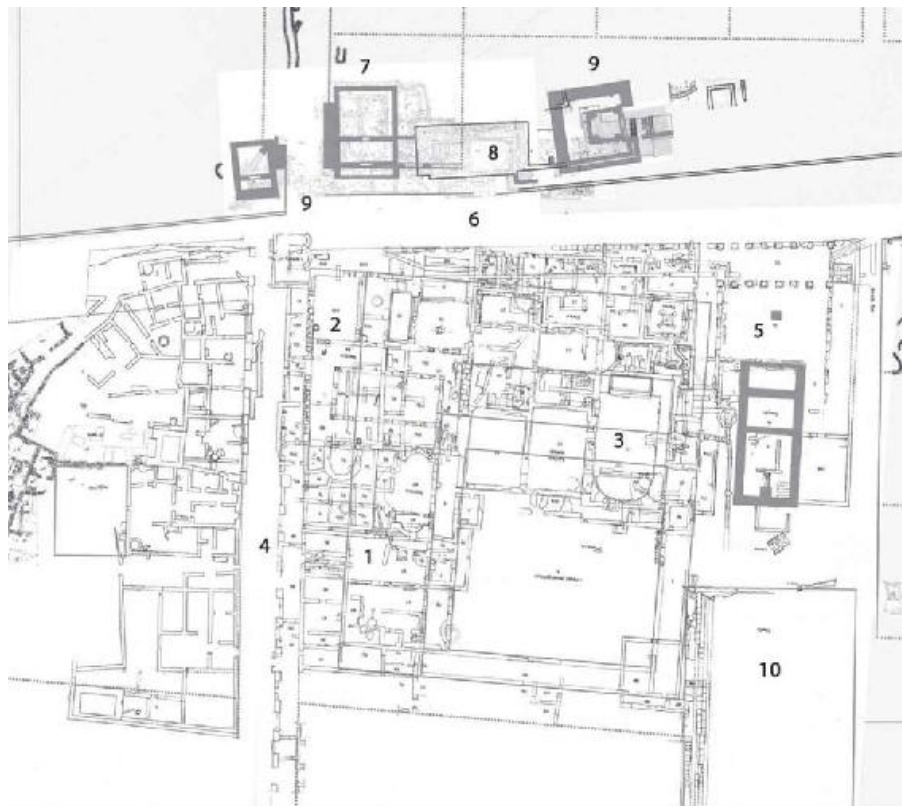
progressively extended to the plain on the south and east, eventually placed the Agora in a decentralized position, while the urban hub of the city now coincided with the area of the Pythion, which had been suburban until the end of the 3rd century BC. This situation influenced the monumental development of the area surrounding the sanctuary, which now effectively assumed the function of the city centre, a role solidified only in the 4th century AD with the final abandonment of the traditional organization tied to the administration of pagan rituals.

In an earlier phase, as has been mentioned, the importance of the Apollo sanctuary was to mark the city limits to the east, forming a kind of sacred access to the city, facing outwards. It was not, however, an isolated entity: more to the southwest, in the Mavropapa area, was another important sacred building that was later dismantled and pillaged to build a Christian church (Baldini 2002). Inscribed building material indicating a third cult building has been found to the southwest, in an area near the present village of Mitropolis where the Christian cathedral is now located. In all three cases (Pythion, Mavropapa, and Mitropolis), the exterior walls were covered with public inscriptions attesting to their official and political functions. From the Pythion are reported decrees and treaties with foreign states, which testify to the relationships between Gortyn and other cities on the island and with the rest of ecumenical Greece. The temple at Mavropapa, on the other hand, presented extracts of decrees of *proxenia*, and the sacred structure at Mitropolis contained decrees and acts of manumission (Marginesu 2005). For the latter, it is reasonable to think that the sanctuary of Leto, according to available sources, was closely linked to the management of groups of the population in subordinate positions. We cannot discount, however, that the Mavropapa sanctuary may also have been dedicated to Artemis, as it was recorded in the city as a depository of its economic resources during the visit of Hannibal. This area was thus connected with the needs of people who were external but still collateral to the community (Nep. *Hann* 9). It is very likely that, at the end of the 3rd century BC, these three places of worship were organized along the ideal boundaries of the city that was for a long time without walls. They formed an *enceinte sacrée* according to a well-known model from the Greek world and therefore assumed the function of both sacred protectors as well as receptors of the exterior, and also acted as a place of mediation between the community and its own members who did not enjoy full rights or adjusted their ties with people of other



poleis. A further element in this regard is the area chosen for the sanctuary of the Egyptian gods, founded perhaps in the first half of the second century BC, in the area immediately north of the Pythion and afterwards in a narrow continuation of this consecrated perimeter strip that seems to have defined the urban space to the east and south for some time (*IC* IV.243; *IC* IV.244; Di Vita 2010, 129).

The process of expansion already mentioned began between the end of the 3rd and the 2nd centuries. This relied in part on a spontaneous growth that occurred in the more southerly quarter ([Fig. 11.2, no. VI](#)), along the road to Lebena, an area that seems to have maintained this character. It is difficult to define whether this expansion was outside or inside the town, as very limited data are yet available. Instead, there are recognizable traces in the eastern sector in front of the Pythion of a development that is certainly more organic and more deliberate. At first, from the end of the 3rd century BC, a space equipped for athletic activities and festival celebrations was constructed on a wide strip; some of the structures were for rituals, but others are more difficult to define. Steps were taken for the arrangement of a stadium (Lippolis 2004; Pucci 2004; Di Vita 2010, 137–41), which was finally completed between the late Augustan and early Tiberian periods, with the creation of a monumental peristyle complex called the Praetorium, now identified as a gymnasium (Di Vita 2010, 163–4) ([Fig. 11.3](#)). The long mole of the stadium, which was oriented more or less north–south, seems for the first time to have marked the new boundary of the city in this direction. This interrupted the network of secondary roads but also acted as an axis for defining the broad, regular sector that extended to the east and south. A systematic planning, in fact, permitted the development of large quadrangular blocks, which were perhaps not completely uniform. It is not possible to identify the chronology of this urban design, but it is generally believed to have been undertaken no earlier than the 2nd century AD (Di Vita 2010, 77–8). If, however, the monumentalization of this new quarter actually dates to this period, the blocks closer to the hub of the Pythion seem to come from an older planning phase, perhaps dating to the first decades of the 1st century AD.



*Figure 11.3 The Praetorium Quarter: in grey, the proto-imperial gymnasium of the Praetorium; 1. entrance of the complex; 2. Crossing area between both the north and the west road; 3. thermae of the Praetorium; 4. west road; 5. temple B; 6. north road; 7. temple A; 8. nymphaeum 9. mausoleum; 10. stadium. Plan by author.*

The 'North' street is a very important road and connects the entire city from east to west. Partially explored, it enters the city from the east, passes the most monumental part of the necropolis, goes through the more recent eastern quarter (Fig. 11.2, no. V), and proceeds to the west, running between the Pythion and the Sanctuary of the Egyptian Gods before cutting through the central district of the city (Fig. 11.2, no. IV). Its relationship with the Agora is not clear, but it perhaps reached this area and then joined the roads leading to the north, the south, and the west. This broad street, which in the Roman period had a width varying between 9 m and 11 m, seems to have had a straight course, contrary to what initially seemed to be the case (Di Vita 2010, 72). It was refurbished in the late-antique period when a number of new structures hindered a completely linear orientation. The surface remains and excavation data indicate that it was transformed over time into a colonnaded path, like the arterial roads of the east. The

section between the Pythion and the 'Praetorium' preserves clear traces of an arrangement with columns no earlier than the 4th century BC, but the interior areas in the central quadrant (Fig. 11.2, no. IV) may have already been affected by a similar transformation at an earlier date, perhaps at the end of the 2nd century BC. This road closes the main branches of the Roman imperial aqueduct with the secondary *castella aquae*, which permitted the improvement to water distribution in the southernmost part of the city. There was a parallel road to the north, perhaps with a minor monumental development, of which few traces remain.

The various quarters were clearly identifiable by their orographic position, by their location, by the internal uniformity of the roads, by their mutual differences, and, in antiquity, finally by the nature of their architectural styles, formed by urban development in different chronological periods. To this account of the physical remains can perhaps be added a formal definition of the neighbourhoods, especially considering the written source, also late, that records different names for the various parts of the city: e.g., Latosion, the areas of Hermaion and Pythion (IC IV.17). That these are part of an earlier tradition, however, can be determined by an inscription that records a *compitum*, which leads one to suppose the existence of a formal subdivision of the various urban components, at least in the 2nd century (IC IV.333). Each one evidently took the name of its main sanctuary, as was also usual for streets, following a system well attested in the sources. There is the quarter of Hermes, even though this cannot be easily identified on the ground – either the Acropolis (Fig. 11.2, no. I) or the Agora (Fig. 11.2, no. II), and the quarter of the Pythion (Fig. 11.2, no. IV), included in the area containing the sanctuary, but perhaps excluding, naturally, the eastern, most recently added block (Fig. 11.2, no. V).

## Historical phases and the nature of urban development

To summarize, ongoing research makes it possible to interpret the history of settlement between the 3rd century BC and late antiquity with greater clarity. It seems evident that the city evolved in a project of urban upgrading and expansion that developed between the 3rd and 2nd centuries BC. The changes to the urban fabric seem connected to each other and have a fairly long period of realization that occupies the entire 2nd century and in some cases reaches the first half of the 1st century BC.

The central space of the civic organization, the Agora, was completely reconstructed, with its borders balanced and defined by means of the monumental Doric portico (Di Vita 2010, 76, 95–103). By the end of the 3rd century BC, the available space was first regularized and limited at the north, the better-known side, by quadrangular blocks 28 m across. Some of this space was occupied by political buildings, such as that of the assembly type identified with the *bouleuterion* and then rebuilt in the imperial period in the form of an *odeion*. Limestone blocks with inscriptions from previous *bouleuteria* of the Classical period were re-used in its construction (Pernier 1925–1926; Di Vita 2010, 107–8; Lippolis 2011). The arrangement of the public square anticipated the following phase, in which were added a double monumental portico, at least on the north side, perhaps dating to the mid-2nd century BC (Fig. 11.4). All these structures were built in *opera quadrata*, with the systematic use of the sandstone quarries opened on the side of Mount Ida and known as the ‘Small’ and ‘Large’ Labyrinths.

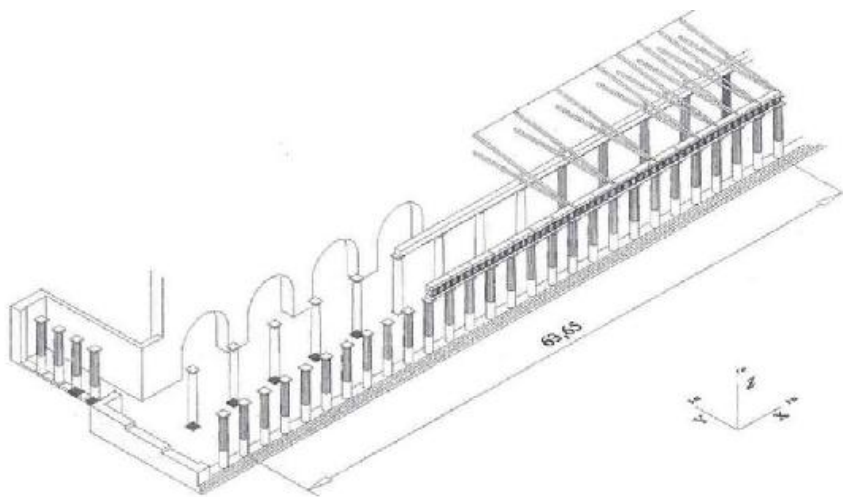


Figure 11.4 Agora, north portico. From Di Vita 2010, 106, fig. 129.

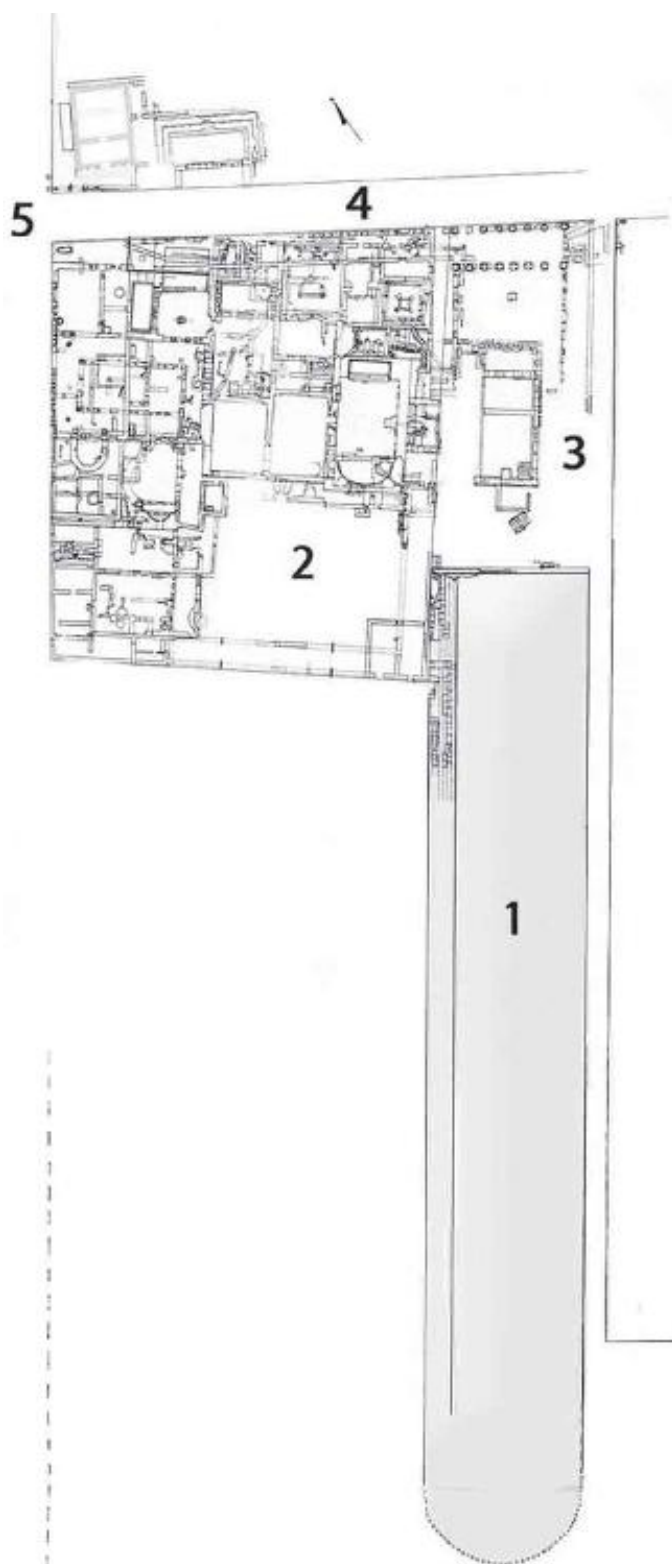


Figure 11.5 Area of the stadium: 1. stadium; 2. Praetorium; 3. Temple B; 4. north road; 5. west road. Plan by author.

Another centre is that of the Pythion (Pl. 24), where the Archaic temple received attention: in front of it was placed a closed vestibule with a facade decorated with *paraste*, probably dating to the 3rd century BC (Ricciardi 1986–1987; Di Vita 2010, 119–26). The great ‘North’ street crossed the entire surrounding area, which displays an irregular plan with different orientations, to which were added new public buildings. These can be dated between the 2nd and 1st centuries and include a temple with closed vestibule oriented towards the south (Temple A) (Di Vita 1988–1989; 1990–1991; 2010, 142–4; Lippolis *et al.* 2003; Baldini *et al.* 2005) and a sacred area to the east, equipped with an altar and oriented perhaps to the north (as Temple B shows, built in a later phase) (Fig. 11.6). The stadium was built between the second half of the 2nd century and the first half of the first century BC at the eastern extremity (Lippolis 2004; Pucci 2004; Di Vita 2010, 137–41; Fig. 11.5). This stretched out on the plain, running more or less north–south. Its construction shows particularly significant characteristics: this is the first-known building of this type with the seating constructed as freestanding and not supported by a slope. The solution adopted was the same as that normally used in the city walls and it produced a structure about 5 m thick with two parallel walls in *opera quadrata*, with the interior filled with an *emplecton* of strongly compacted stones, earth, and clay, in superimposed layers. Of particular interest is also the eastern face of the building, which has slightly overhanging bands dividing the wall into three parts, distinguishing the lower part from the central section and a type of smoothed attic above, to a height of c. 4 m. Access to the steps, reduced to five through insufficient available space, was undertaken in this structure in the same way as *posterulae* in a defensive wall, and took the form of narrow passages with rounded arches allowing access to short stairs in stone that climbed from the lower level of seating. The entrance was positioned on the northern straight side, in a misaligned position, and contained a wide opening (c. 3 m) that may have been covered by an arch.

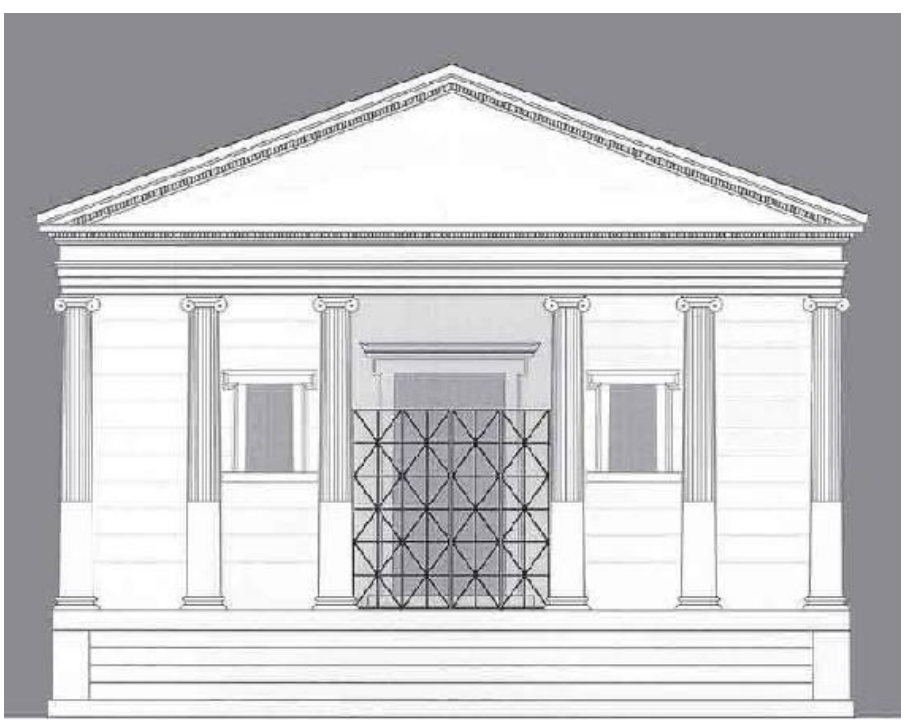


Figure 11.6 Temple B, graphic reconstruction of the façade. From Baldini et al. 2005, fig. 5.

The architectural development of this and other buildings shows careful and well-organized work, from the systematic use of the quarry to installation with a series of features and innovations, such as the substructured steps, which attest to a strong interest in experimentation. An Egyptian model can be recognized in some cases, and it cannot be ruled out that the model for the stadium relied on an analogous Alexandrian monument that affected the appearance of the *Basileia* on the great Canopic road. The incomplete construction of the fortification wall construction, moreover, which dates to around the same time, signals direct Ptolemaic intervention, as has been described, and the foundation of the sanctuary of the Egyptian deities indicates a similar rapport with the Egyptian world.

The Augustan age coincides with a further monumental phase; interventions in the Agora date to this period, such as a new reconstruction of the *bouleuterion* in which the ‘Great Inscription’ of the proto-Classical period is preserved (Di Vita 2010, 109–19), and structures designed for the imperial cult, from which come a rich supply of sculptures (Romeo and Portale 1998, 286–336; Di Vita 2010, 64). A refurbishment of the facade of Temple A is attested in the area of the Pythion (Lippolis *et al.* 2003; Baldini *et al.* 2005) (Fig.



11.6) and, between the late-Augustan and the early Tiberian periods, a large complex called the 'Praetorium' of more than 5000 m<sup>2</sup> was constructed (Fig. 11.3). This completes the panoply of public buildings collected around the ancient sanctuary, and shows the ability to update local, Hellenistic traditions with insights found in the Italic and Roman worlds of the late Republic and early Empire (Rocco 2000, 26–7; Livadiotti 2011). The vast area around the sanctuary of Apollo was then characterized through the development of an important public festival, also with a regional significance (Lippolis 2011); some authors are more cautious and sceptical about the contemporary dating of the different structures in the area around the Pythion (Di Vita 2010, 72–4). The process is the same as that affecting the sanctuary south of the Acropolis on Rhodes: after the earthquake of 227, a series of structures was expanded, such as the *odeion*, terraces and service facilities, stadium, and gymnasium. In this case, the athletic-festival quarter housed the principal cults of the city, namely the Pythia, the Halia, and the Dioskouria. In a similar manner, the celebratory quarter at the eastern edge of Gortyn doubtless housed the Pythia, perhaps the Hellotia, and was probably also used for celebrations of a festival connected with the imperial cult (*Rhomaia?*), but above all it was in this area that several important functions of the assembly celebrating the Pan-Cretan *Koinon* were enacted (Rouanet-Liesenfelt 1994, 22–5).

We cannot rule out that the eastward extension of the city, which was regular and planned, may already in this period have been defined by the first blocks of buildings and continued later. It is evident that the city's pre-eminence over other towns, the presence in the city of the island's and province's government representatives, and the growth that characterizes the settlement indicates a phase of prosperity that also facilitated a spontaneous urbanism at the expense of smaller centres. The state of production is less clear; at Gortyn, it was perhaps based on wine manufacture and other alimentary products such as cheese, but evidence is lacking for kilns and production facilities in the city and its territories.

The commitment to a water system is indicated by an inscription that records the patron Soarchos, the son of Kylindros, the *Archiereus* of the *Koinon* (IC IV.330; Di Vita 2010, 64). It is difficult to ascertain the stages of the processes for organizing the public aqueducts in their first phases (Di Vita 2010, 231–9), but a fountain dating probably no later than the Augustan period (Di Vita 2010, 72) in the area in front



of the stadium indicates the existence of a water distribution structure in this phase. In such cases, this can be attributed to the work of Soarchos, who was active around this time and was a member of an important local family whose genealogy has been reconstructed through four successive generations. His ancestor Sosos and his great-grandfather Soarchos I had been *neochoroi* at the Asklepios Sanctuary at Lebena, while his uncles Rantias and Kalabis had assumed, respectively, the positions of *cosmos* and *protocosmos* (Paluchowski 2008).

It is difficult to reconstruct the precise chronological sequence of activity in the Julio-Claudian period, which is only superficially known due to the still-limited nature of research. There is very little data for the Flavian period, but it is probable that this period saw the start of renovations to the Sanctuary of the Egyptian Gods that were completed in the early decades of the 2nd century AD. The limited nature of the excavations carried out between 1914 and 1916 (Oliverio 1914; 1916) has long prevented a proper understanding of this monument; an initial interpretation of the remains proposed by R. Salditt Trapmann (1970) was fittingly refuted by A. Di Vita (1994–1995; 2010, 129–35), who directed the last exploration of the area. It is thus possible to benefit from more complete and thorough information, although the analysis is limited only to the visible remains. The new interpretation reconstructs a temple building looking to the west on a small, open courtyard facing a portico square, of which only the northeastern corner is visible. This would have been one of the several multi-functional public areas of the city (Fig. 11.7).

The examination of the walls, however, leads us to a different reconstruction of the entire monumental area. It is essential in this regard to identify the entrance at the east of the entire complex, which was closed by a door and connected to a corridor. This led directly to the colonnaded public square, which has already been discussed, and shows its closed nature, which was certainly intended in an integral way to be used as a place for common functions. One can reconstruct, therefore, a true and proper *temenos*, accessible from a main corridor, after the required lustrations in a basin placed immediately outside the door. Crossing through this door, it was possible to walk along the corridor to the colonnaded public square or to enter directly into an empty underground room recognizable as the *purgatorium* usual in Egyptian sanctuaries. This arrangement confirms once again the sacred significance of all the structures in this complex

that were allocated a unified function. The corridor ends at a colonnaded gallery to the east of the large public square where there are columns with shafts of grey local marble in a state of collapse, and whose axis can perhaps be distinguished: in the paving of the uncovered section, which has only been partially excavated, a distinct band leads evidently to an element positioned in the centre of the square. Rooms open to the rear of the portico, and one of these, that on the north-east had on its principal axis an architrave with a dedication of the *oikos* by Flavia Philyra and her children (IC IV.249). This is, in essence, a familiar type of sanctuary for Egyptian Gods, with the necessary *purgatorium* and a courtyard, in the centre of which a temple was most probably erected. This lies in the non-excavated section, but would follow a model with numerous parallels. Overlooking the courtyard were rooms, such the *oikos* of Flavia Philyra, for the various needs of the cult and rooms used in the catechesis, for common meals, or for other ritual activities; the interpretation of the *oikos* as a sacred banquet hall (Bricault 2005, 374, n. 203/0607) is not supported by all scholars (Di Vita 2010, 159, n. 372).

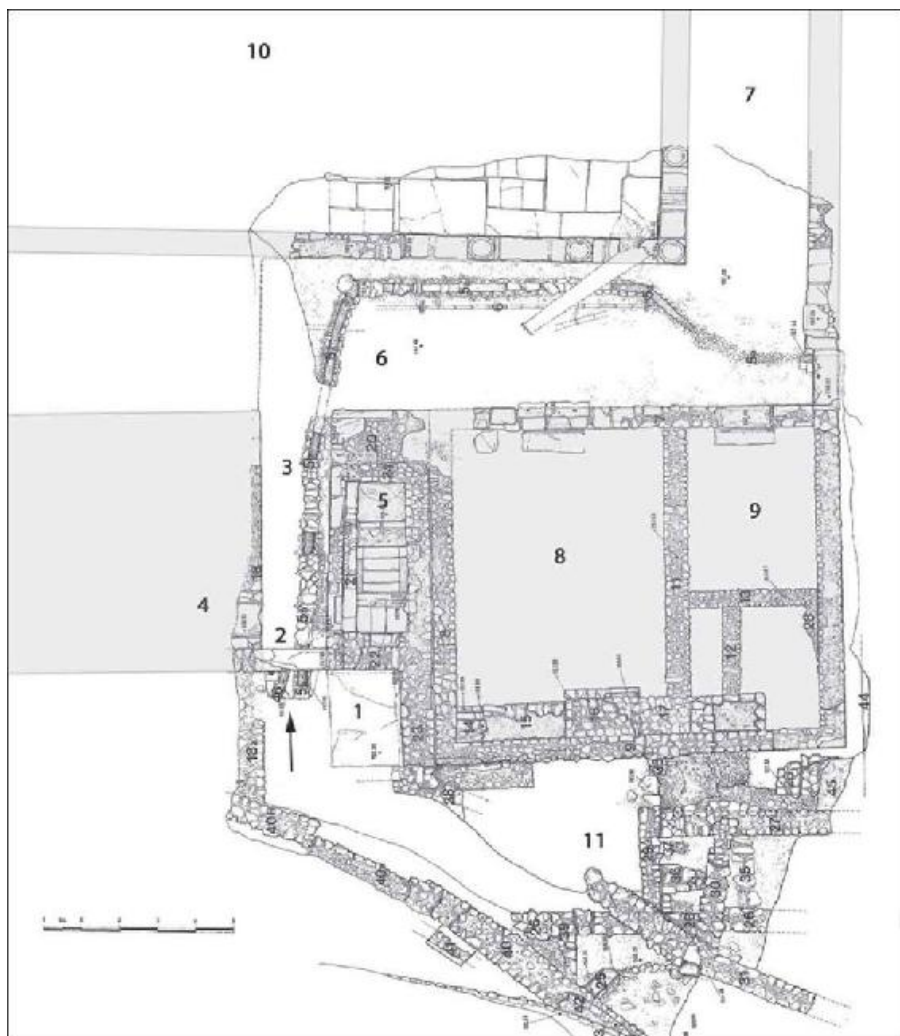


Figure 11.7 Sanctuary of the Egyptian Gods: 1. lustral basin outside the entrance; 2. entrance corridor; 3. raceway; 4. unexcavated rooms; 5. purgatorium; 6. east portico; 7. north portico; 8. oikos of Flavia Phylira; 9. service rooms; 10. central area bordered by the peristyle. Plan by author.

A full reconstruction of the water system can be dated to the 2nd century AD, when we can place the construction of a large bath within the 'Praetorium' complex (Di Vita 2010, 164–71). This and other works document a renovation of the great urban aqueduct that at this time saw continuous refurbishment and improvements until the beginning of the 3rd century AD. This work was connected still more intensively with the creation of a *nymphaeum* system, known both archaeologically and epigraphically (Pagano 2007) (Pl. 25). The bath created in the complex of the 'Praetorium' seems to be of particular relevance; it was probably the oldest bath of this size in the city. The

earlier phase of this building (gymnasium?) was completely suppressed in this period. The entire structure was converted to the new purpose and now included hot and cold rooms, a great latrine, a triangular area perhaps for cult activities, and a *basilica thermarum*. It may be that the earlier phase of this building housed the jurisdiction for the regional administration of the *Koinon* instead of a gymnasium and later fell into disuse or was differently regulated in the re-organization of the provincial system during the Trajanic period. An inscription belonging to the Trajanic era commemorated an *odeion*, but it is problematic to attribute this to a refurbishment of the Hellenistic *bouleuterion* because of a lack of construction datable to this phase (IC IV.331).

Even the identification of activities in the reigns of Hadrian and Antoninus Pius presents some interpretative difficulties. A bath complex called the Megali Porta has been attributed to the Hadrianic period (Masturzo and Tarditi 1994–1995) (Fig. 11.8). This structure, built at the city's southern boundary in a block of Sector V, is the largest building of the town. It seems to have been matched by a sacred rectangular area with two, twinned temple buildings (Masturzo and Tarditi 1994–1995; Di Vita 2010, 280–3); Melfi dates it to the Antonine period (2007, 95, 145, n. 138; 195). Construction activities, however, intensify mid-century and are often linked to damages resulting from a significant earthquake (Di Vita 2010, 115). This is an appropriate event for the change, but one that does not nevertheless explain the strong increase in monumental construction in the second half of the 2nd century AD and in the Severan period.

The construction of a new monumental theatre at the eastern end of the town can be dated late in the principate of Antoninus Pius or shortly after. This structure faced the city and displayed colossal statues in the niches on the exterior of the *scene*, in the facade facing towards a quadrangular *porticus post scaenam* (Montali 2006; Di Vita 2010, 289–93). Some streets were paved during the reign of Marcus Aurelius and his son (IC IV.334), although the process may have started earlier. This improvement is well documented for the 'North' road and an important transverse road (normally called 'West' street), but renovation of the *castella* of the aqueduct line is also evident. These are signs of a continuous program of re-organization and upgrading of the city's infrastructure. The restoration of a *compitum* (IC IV.333) is attested in the area of public monuments, and the construction (or reconstruction) of the great Temple B facing to the

north occurred in the late-Hellenistic sacred area to the east of the ‘Praetorium’ bath (Pl. 26). This building is best known from a rebuilding of the 4th century AD, but it preserves its original characteristics: a prostyle, tetrastyle facade in marble and a podium covered in local limestone, just like three sides of the cornice of the building, but not its front (Magnelli 2001; 2002; Rocco 2004; Di Vita 2010, 210–24). From this structure is preserved a gargoyle with the head of *ketos*, reminiscent of Hellenistic culture and of an Egyptian tradition still alive in the city. An *odeion* made of brick and covered in *opera quadrata* was erected to the south of the Pythion and closely linked to it (Bonetto 2001; Bonetto *et al.* 2002; 2003; 2004; 2009).

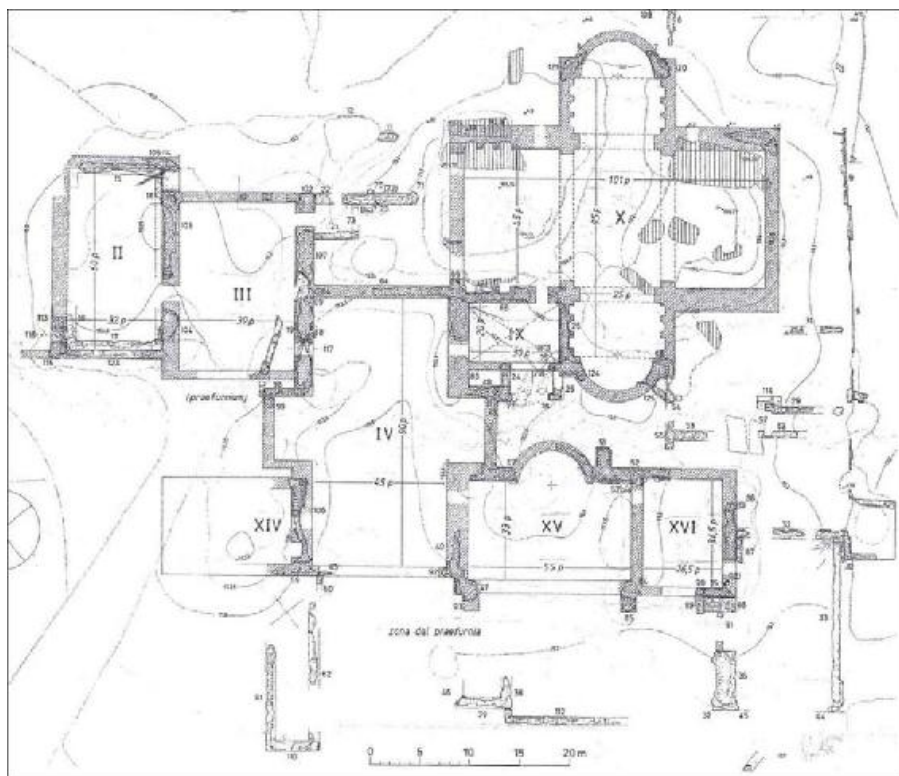


Figure 11.8 Megali Porta thermae. From Masturzo and Tarditi 1994–1995, 262, fig. 24.

The Severan period represents the phase of the city’s greatest expansion, with intensive construction activity addressing mainly the public areas. The earliest urban theatre on the Acropolis hills was reconstructed in cement and brick (Di Vita 2010, 271–2). This building, which contained a reference to a Julia Augusta – probably a member of the Severan family – in the *scene*, is the subject of an ongoing, systematic excavation conducted by the Greek Ephoreia.

Perhaps in the same era, the course of the Mitropolianos was covered in the Agora, creating an underground tunnel, the massive substructures of which are still clearly visible. The interpretation of the organization of a large porticoed area that broadens the monumental space of the public square to the west is equally problematic. This was articulated on two levels and partly raised on an artificial platform supported by arches. It is a monument of special importance, placed as it was in a location traditionally designed to house the sacred buildings of the Agora, where it can be identified as a great urban sanctuary; Di Vita (2010, 79), however, believed this to be a portico without other elements and considers it a *porticus post scaenam* connected with the use of the nearby theatre (Di Vita 2010, 272–8). The most significant monument is perhaps the amphitheatre erected at the eastern end of the city, in a suburb separated by a stretch of the necropolis (Di Vita 2010, 294–8) and probably of the same period as the construction of the circus, which was established on the southeast boundaries and is generally dated to the Severan period (Di Vita 2010, 81, 299–304). Even the area of the Python saw a radical renovation with the re-organization of the temple. This concerned the addition of a terminating apse and the restoration of the side walls and roof, which were now supported by two rows of multi-coloured marble columns from *spolia*, two of which bear inscriptions dedicated to Septimius Severus and Caracalla (Ricciardi 1986–1987; Di Vita 2010, 119–26). The great theatre of the city was finally rebuilt in the area of the Agora, and a similar reconstruction addressed the *bouleuterion*, which was refurbished and rebuilt almost entirely in the form of an *odeion* (Di Vita 2010, 108–19) (Pl. 27).

An integral part of this series of reconstructions that seem to have transformed the city into a building site in progress was the systematic introduction of brick for walls, which appears from the first half of the 2nd century in the upper parts of buildings and later more extensively. The diffusion of this construction technique finally ended the phase of *opus quadratum*, but not the use of local stone, which was sketched out in not irregular lines on the tufa; it was employed for the bases of wall in the Antonine and Severan periods.

After this extraordinary construction stimulus, there seems to have been a rapid slow down, as indicated by the absence of new constructions or of important reconstructions. It is, however, difficult to situate structures and renovations when sufficient stratigraphic data is lacking, with the result that the impression of a total and sudden

stagnation should be considered with caution. In any case, this recessive phenomenon does not constitute an isolated case, but coincides with other cases in the Aegean basin. Remains of a destructive event have been clearly observed in the early 4th century AD and probably played a fairly large role in the case of the Pythion district. Soon after the beginning of the 4th century AD, in addition, there was a significant refurbishment of this whole area. The construction of a monumental *nymphaeum* (Ortega 1986–1987; Lippolis *et al.* 2003; Baldini *et al.* 2005; Di Vita 2010, 224–30), similar to another erected a little farther south (Perali 1914; Di Vita 2010, 279), indicates a new reconstruction of the water system. The ‘North’ street in this district was transformed into a colonnaded path, and the shops that opened onto both sides in the earlier phase were knocked down. The earlier intense commercial activity – and production, in the case of glass – was consequently removed from this sector. In all this work, we encounter extensive re-use of materials, both in their original manner and also, with the use of marble columns and capitals, as fill for the interior of concrete cores. These materials come from buildings that were damaged or progressively abandoned and thus were deprived of their original function. For example, the stadium (Lippolis 2004) seems disused and it became a quarry for construction materials, but an analogous situation can also be seen with the *odeion* of the Pythion (Bonetto 2001; Bonetto *et al.* 2002; 2003; 2004; 2009). An earthquake around AD 365 provided another opportunity for damage to the city’s monumental heritage that had already been compromised (Di Vita 1979–1980; Stiros 2001; 2010). On this occasion, the same temple of Apollo Pythios and the *odeion* next to it were affected, as were the ‘Praetorium’ baths and perhaps also the buildings of the Agora and on the Acropolis. None of the structures dedicated to pagan deities seem to have been reconstructed, except when they could be re-used for a new and different purpose. Some areas were completely abandoned and used as landfill for discarded building materials or other debris, as was the case with the stadium and the *odeion* of the Pythion. Other structures, although restored, show a significant reduction of their surfaces, such as the ‘Praetorium’ bath. Spaces that became free were transferred and ceded to private individuals, thus showing a progressive installation of artisan facilities of various types starting in the 5th century AD, such as in the *palaestra* of the gymnasium in the ‘Praetorium’ and in the area of Temple B. Even now, in the last decades of the 4th and beginning of the 5th centuries, this had a restoration of the front of

the sacred area, now arranged with a double portico of columns, with the outer columns made of granite from the Troad and the inner ones of Proconnesian (Di Vita 2010, 224). The same cult building had a restoration of the facade with a new dedication inscribed by a magistrate named Pactumeius (Magnelli 2001; 2002; Rocco 2004; Di Vita 2010, 210–24).

In the 5th century, the late-antique city of Gortyn seems to have resumed an intensive building activity, but these transformations, reconstructions, and construction of a new city substantially changed the appearance of the settlement over time and created new routes and new epicentres. Out of these comes the ‘Praetorium,’ perhaps constructed as early as the mid-4th century AD in the *basilica thermarum* of the bath, which was repeatedly rebuilt until the 7th century when the arrangement of the judicial plan seems connected with the final public expression of the city in the Heraclian age. In any case, it is important to note that, until the beginning of the 5th century, some institutional forms survived even now from the Classical city, such as the *boule* and the *Koinon*, which were still explicitly recorded in inscriptions as managers of public activities, next to the increasingly significant presence of the representatives of the Constantinian imperial power (IC IV.313; IC IV.325; Di Vita 2010, 64).

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## Crete's economic transformation in the late Roman Empire

**Scott Gallimore**

Discussions of Crete's economic role in the Roman Empire tend to focus on the first three centuries AD, when exports from the island are well documented across the Mediterranean and northern Europe. Italian sites in particular, including Rome, Ostia, and Pompeii, have produced large numbers of Cretan amphorae used as packaging for wine and other products during the early Roman period. By the end of the 3rd century, however, Cretan amphorae disappear from pottery assemblages at most western sites, leading some scholars to surmise that the island's export economy had failed. Supporting this idea was a typology of Cretan amphorae developed in the early 1990s that recognized production only up to the early 4th century (Markoulaki *et al.* 1989, 554; Empereur *et al.* 1991, 520; Marangou-Lerat 1995, 64–94). This paper aims to update this perspective by demonstrating that Crete's export economy continued to flourish into the late-Roman period. Using a revised amphora typology developed by excavators at the Cretan sites of Gortyn and Eleutherna, Cretan vessels can be documented at numerous sites across the Roman Empire from the 4th through 7th centuries AD. In particular, these amphorae are well attested in the provinces of Moesia Secunda and Scythia along the Black Sea where a large component of the Roman army was stationed, suggesting that the island became a supplier for the *annona militaris*. By first examining Crete's export economy in the early Roman period to provide a foundation for the study, we can then define the extent to which Crete underwent an economic transformation in the late-Roman period by assessing evidence for the island's economic connections in the 4th through 7th centuries, and by scrutinizing indications of changes on Crete itself.

### Background to Crete's economy, 1st–3rd centuries AD

In the recent *Cambridge Economic History of the Greco-Roman World*, Alcock's chapter on the eastern Mediterranean includes a map showing the distribution of Cretan amphorae across the Roman world



(Alcock 2007, 688, map 25.3). Although this map has no specific chronological range, it illustrates the dispersal of Amphore Crétoise types 1–4 vessels, forms produced during the 1st through 3rd centuries AD. This represents the traditional focus of scholarship on the economy of Crete: the export of amphora-borne goods during the early Roman period. Amphorae are the most visible evidence for exports from Crete and thus serve as the main proxy for understanding the economy of the island. Herein lies the difficulty, however. When Cretan amphorae disappear from ceramic assemblages at a number of sites by the late-3rd/early 4th century AD, some scholars, including Marangou (1999, 278), argue that the island's export economy had failed. Assessing the validity of this interpretation is necessary for understanding how Crete's economy transformed during the late-Roman period.

### ***Crete and Italy***

In the 1st century AD, the largest consumer of Cretan wine was the Italian region of Campania. A number of sites there, including Capua, Herculaneum, Neapolis, Oplontis, Pompeii, Puteoli, and Stabiae, preserve notable quantities of Cretan amphorae. Marangou (1994, 138–40) confirmed the extent of this trade by examining the storerooms of several of these sites. Pompeii alone produced over 420 complete or nearly complete vessels, while Herculaneum and Oplontis preserved 50 and 20 amphorae respectively. The attraction of Cretan products packaged in amphorae to Campanian sites may be due to the organization of the Alexandrian grain trade in the 1st century (Casson 1980; Rickman 1980; Sirks 1991). At that time, the port of Puteoli, located in the northwest corner of the Bay of Naples, was the destination for grain ships from Alexandria. The cargoes may have been offloaded at Puteoli and placed on smaller ships for transport up the Tyrrhennian coast to Ostia and then Rome. While these ships could take several possible routes to reach Italy, some vessels passed by Crete. In the *Book of Acts* (27, 28.11–14), Paul describes a sea journey from Lycia in the province of Asia to Italy in which he spent time shipwrecked on the island of Melita (modern Malta). Both in Lycia and in Melita, Paul boarded ships bound for Italy from Alexandria. When sailing from Lycia, he describes passing along the south coast of Crete and indicates that grain ships stopped at various ports. An inscription from the site of Phoinix in southwest Crete (IC II.xx.7), set up by a helmsman from an Alexandrian ship, corroborates Paul's report. These ships would presumably take on supplemental

cargoes at Cretan ports. Thus, one of the primary mechanisms for the movement of Cretan goods to the west, including amphora-borne commodities, may have been the grain trade.

Tchernia (1986, 244, 298) first made the connection between Cretan trade and shipments of Egyptian grain in his comprehensive study of the Italian wine industry. The large quantity of Cretan amphora finds in Campania in the 1st century AD formed one part of Tchernia's argument, but re-organization of the Egyptian grain trade in the 2nd century also provided supporting evidence. During the 2nd century, the site of Portus, located adjacent to Ostia at the mouth of the Tiber River, replaced Puteoli as the primary destination for Egyptian grain ships. Meiggs (1973, 58–9) suggested that this occurred during the reign of Trajan when a hexagonal harbour was constructed at Portus, although more recent studies argue for a gradual transition over the course of the 2nd century (Keay 2010, 14–7). Distribution of Cretan amphorae suggests that the shift was mostly complete by the mid-2nd century when the number of these vessels in the existing Campanian sites had decreased, but finds in Rome and Ostia had increased greatly. At Rome, for instance, Cretan amphorae account for approximately 20% of wine amphorae in mid-2nd century ceramic assemblages (Rizzo 2003, 207). This is triple the amount from a century before. A similar pattern emerges at Ostia, although overall quantities of Cretan vessels are lower. At the *Terme del Nuotatore*, located in Regio V in the southeast part of the site, amphorae from the island account for approximately 5% of wine amphorae in the mid-2nd century and reach a peak of 7.5% in the early 3rd century (Panella 1989, 175, fig. 20; 177, figs 23–4).

The situation changes by the mid-3rd century. While a few Cretan amphorae appear in late-3rd/early 4th century contexts in a house on the eastern slope of the Palatine hill at Rome (Peña 1999, 82) and in the *Domus dei Pesci* in the southern part of Ostia (Geremia Nuce and Leoni 2003, 66), overall their numbers are greatly reduced. Changes to the Alexandrian grain trade have been cited as the reason for this decline. According to Sirks (1991, 199), the *terminus ante quem* for Egyptian grain no longer supplying Rome is AD 308–311 when Constantine and Maxentius were fighting a civil war. During that conflict, Constantine cut off African grain supplies, causing large-scale famine at Rome. Since Egypt was not a target of Constantine, this suggests that Egyptian grain was supplying other centres. Thus, even before Constantinople became the primary consumer of Egyptian grain

by AD 334, these supplies had been directed away from Rome. Peña (1999, 154) has suggested that the change came under Diocletian during his re-organization of the provinces and the military at the end of the 3rd century. He even cites the “scarce representation of inphase Cretan wine amphoras” at Rome by the early 4th century as evidence for this change. Reynolds (2010a, 72) notes, however, that the supply of Cretan products had begun declining in Rome earlier than the reign of Diocletian, perhaps indicating that Egyptian grain shipments were being redirected by the middle part of the 3rd century.

### ***Crete’s export economy beyond Italy***

A connection between the Alexandrian grain trade and the supply of Cretan goods to certain Italian markets is evident. This relationship, however, is not representative of Crete’s entire export economy. During the 1st through 3rd centuries AD, the distribution of Cretan amphorae is widespread across the Mediterranean and northern Europe (Fig. 12.1). Even a cursory glance at this map suggests that a variety of economic stimuli, in addition to the grain trade, must have been in place. Morley (2007, 580) has described three primary means by which goods were circulated in ancient exchange networks: first, commodities could be passed from producer to consumer in local marketplaces; second, goods could move through intermediaries before reaching the consumer; and finally, supplies could be transferred from the place of production to the place of consumption through official redistribution. The second and third models are relevant to this discussion.

Official redistribution has been discussed above in the context of the grain trade, but it is manifest in other ways. For example, sometime between 36 and 27 BC, the Cretan city of Knossos became a Roman colony of the city of Capua in central Italy (Paton 1994, 143). Knossos generated significant revenues for Capua, totalling as much as 1.2 million *sestertii per annum*, according to the 1st century AD author Velleius Parterculus (2.81). Cretan amphorae found at Capua, several of which have *tituli picti* that name the Italian city, suggest that Knossos made many of its payments in kind, including shipments of amphora-borne products (De Caro 1992–1993; Horden and Purcell 2000, 219).

Morley’s second model of circulation, which could be termed free-market exchange, is also relevant to discussions of Crete’s economy. Although the concept of free-market exchange still raises debate,

merchants and traders were active across the Roman world. As early as 67 BC, Italian traders are attested at the site of Gortyn on Crete (IC IV.278; IC IV.290; IC IV.291). Baldwin Bowsky (1999, 330) has also noted that many Roman names that become common in Cretan cities have connections to economically active families in the eastern Mediterranean. The wide dispersal of Cretan amphorae across the Roman world must be owed, at least partly, to free-market exchange. In the province of Pannonia in northern Europe, for example, small numbers of Cretan amphorae have been recovered from several sites, including Carnuntum (Hárshegyi 2008, 173), Savaria (Hárshegyi 2008, 174), Scarbantia (Bezczky 1987, 73, no. 268; Kelemen 1988, 129, type 3), and Vindobona (Bezczky 2005, 39–40; Hárshegyi 2008, 173). These sites are army encampments, but the limited number of attested vessels argues against Crete supplying military forces. Instead, Hárshegyi (2008, 173) observes that these sites tend to fall along the amber route, suggesting that Cretan products made their way to the region through private trade. Even within the context of the Egyptian grain trade, there is evidence for free-market exchange, which perhaps influenced Crete's export economy. A 1st century AD collection of documents from Pompeii known as the Murecine Archive points to the private movement of grain and amphora-borne products (Camodeca 1999). Sirks (1991, 363) speculates that the free-market exchange of grain may have even exceeded the quantity of imports supplied by the *annona*. Cretan amphorae have also been recovered from several early Roman shipwrecks, including the Alberti wreck (Cavalier and Livadie 1985, 72–3), the Pyrgi wreck (Gianfrotta 1981, 71–2, fig. 10), the Qaitbay 1 wreck (Empereur 1998, 615; 2000, 601), the Saint Gervais wreck (Liou 1987, 89–92), the Saint-Raphaël wreck (Santamaria 1984, 41, no. 31), Skerki Bank wreck B (McCann and Oleson 2004, 132), and the Torre Chianca wreck (Parker 1992, 426, no. 1153), none of which were associated with the *annona*.

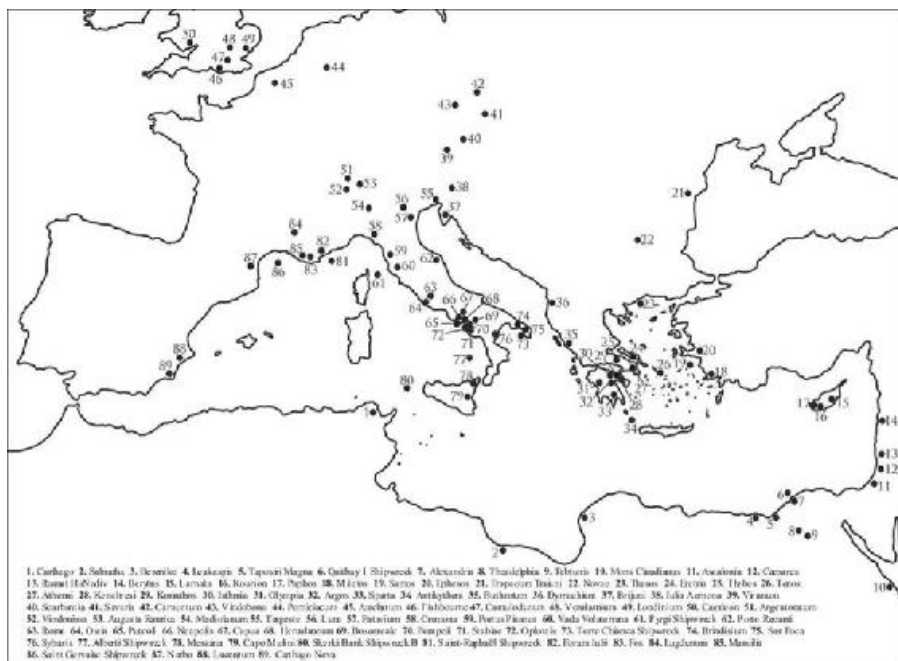


Figure 12.1 Distribution of Cretan amphorae, 1st–3rd centuries AD. Drawing by author.

Consideration of economic stimuli beyond the government-sponsored *annona*, such as free-market exchange, is necessary for understanding the adaptability of Crete's export economy. While sites connected to the *annona*, such as Rome and Ostia, show a decline in Cretan imports during the 3rd century, other sites continue to receive large quantities of goods from the island. In Greece, for instance, several sites produce evidence for Cretan imports in the 3rd century, including Argos (Abadie-Reynal 2007, 237–8, no. 426), Athens (Robinson 1959, 68, no. K112; 93, no. M102), Corinth (Slane 2004, 366–7), and Olympia (Martin 1996, 127–8). At Olympia in particular, Martin notes that the majority of Aegean amphora finds, which comprise the bulk of the assemblage in the late 2nd and early 3rd centuries AD, are Cretan. The Zemer 57 amphorae, possibly of Cretan origin, comprise approximately 43% of a mid-3rd century amphora assemblage at Buthrotum in Epirus (Reynolds *et al.* 2008, 76, table 2). Finds still appear in Italy as well. In contexts datable to the first half of the 3rd century AD at Brundisium and San Foca in the region of Apulia, approximately 7% and 20% of the amphorae respectively are Cretan (Auriemma and Quiri 2004, 45). Even in Gaul, at the site of Lyon, these vessels account for approximately 11% of finds in the first half of the 3rd century (Lemaître 2000, 467).

Crete also had strong economic connections in the 3rd century AD with the region of Cyrenaica in Africa. From approximately 27 BC to AD 295, Crete and Cyrenaica formed a joint province (Chevrollier, this volume). Such a relationship implies a degree of economic exchange, although documenting evidence for trade between these regions is difficult. On Crete, almost no imports from Cyrenaica have been identified. Cyrenaica produced grain, an invisible commodity in the archaeological record, and olive oil, for which no local container has been identified as packaging (Wilson 2009, 216–7). Thus, even if imports from Cyrenaica were reaching Crete's shores, we lack the ability to recognize them. Evidence for Cretan exports on Cyrenaica is better, particularly at the site of Berenice. There, Cretan amphorae and lamps are present in 1st and 2nd century AD contexts, but are most common in the 3rd century (Riley 1979, 180–1). Perhaps Crete turned to its provincial partner as it lost markets in the west, like Rome and Ostia.

One problem in the above description of Crete's 3rd century connections is the absence of evidence for the second half of the century. This is due to an almost complete lack of published ceramic assemblages from that period (Peña 1999, 153; Reynolds *et al.* 2011, 17–8, 27). While this is disconcerting, no major decline in exports likely occurred. Cretan amphorae continue to be well attested during the 4th through 7th centuries, indicating that the island's export economy remained strong.

### **Economic connections, 4th–7th centuries AD**

Careful scrutiny of available evidence indicates that Cretan exports did not cease by the end of the 3rd century. Amphorae remain our primary proxy for assessing the Cretan economy in the late-Roman period. The recent development of a revised typology of Cretan amphorae provides an advantage for studying this period. The original typology, proposed in the early 1990s, comprised four types which ceased to be produced by the early 4th century (Markoulaki *et al.* 1989, 554; Empereur *et al.* 1991, 520; Marangou-Lerat 1995, 64–94). Based on finds from the sites of Gortyn and Eleutherna, the new typology comprises 26 vessel types, 20 of which were manufactured after the 3rd century (Portale and Romeo 2000; 2001, 260–1, 264–6, 269–79, 302–13; Yangaki 2004–2005, 507–20; 2005, 189, 194–7). The end of amphora production on the island is now dated to at least the 8th century.

## **Crete's export economy, 4th–5th centuries AD**

Distribution of Cretan amphorae in the 4th and 5th centuries AD shows several patterns (Fig. 12.2). First, like other regions in the eastern Mediterranean, Crete's economic focus in the late Roman period was, to a large extent, eastern. Alcock (1993, 220) has argued that in the late Roman period:

Greece conceivably could have become a more important resource for the eastern Roman world than had previously been the case, though the archaeological trade studies necessary to verify such a suggestion are sadly lacking.

In the past two decades, studies have begun to fill in the lacunae lamented by Alcock. Karagiorgiou (2001) has shown that Aegean products, particularly those shipped in LRA2 amphorae, were a primary component of the *annona militaris* along the Danube River. Wickham (2005, 76, 708) has acknowledged that Constantinople received the bulk of its commodities from eastern regions, including grain from Egypt and wine and oil from Judaea, Cilicia, and the Aegean. Finds of Cretan amphorae at several eastern sites, including Alexandria (Marangou 2004, 1035–8, nos 8–13), Antikythera (Quercia *et al.* 2011, 51), Argos (Abadie-Reynal 2007, 252, no. 457), Athens (Robinson 1959, 68, no. K112; Böttger 1992, 371, no. 71; Reynolds 2010a, 278, no. 313), Buthrotum (Reynolds 2010a, 154; 306, no. 473), Demetrias (Eiwanger 1981, pl. 3.520), Olympia (Martin 2000, 430), and Thessaloniki (Papinikola-Bakirtzi 2010, 273), show that Crete also participated in eastern exchange networks.

Cretan amphorae also appear at more western sites than might be expected. Understanding the chronology of these finds is necessary, though, for contextualizing them. At Ostia (Geremia Nucci and Leone 2003, 67) and Naples (Arthur 1998, 166, n. 42), a few Cretan vessels are attested in early 4th century contexts but disappear after that. This could represent residual effects of earlier trade networks between Crete and Italy. For the other sites, the finds date to the first half of the 5th century. This includes Rome, where small quantities of Cretan amphorae have been recovered from the Magna Mater sanctuary on the Palatine hill (Panella *et al.* 2010, 67). Marseille in Gaul (Bonifay 1986, 285, fig. 9.35) and Puig Rodon and Tarraco in Spain (Remolà Vallverdú 1993) also preserve possible Cretan vessels. Reynolds (2010a, 54, 85) notes that the presence of Cretan amphorae at these sites coincides with an increase in eastern imports to the west during the first half of the 5th century, before the Vandal conquest of Africa.

This period of activity, which also includes an increase in western imports to the eastern Mediterranean, appears to represent a flourish in private trade, since finds occur regularly at sites not associated with any *annona*.

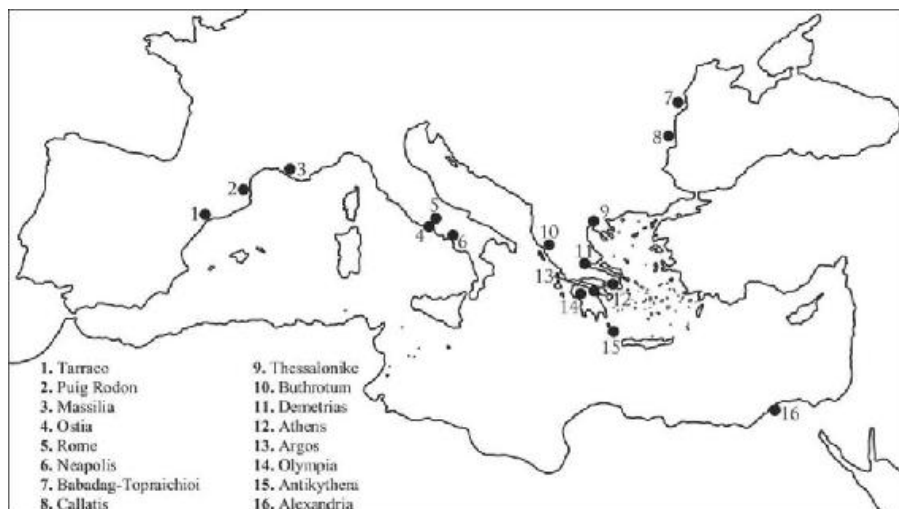


Figure 12.2 Distribution of Cretan amphorae, 4th–5th centuries AD. Drawing by author.

### Crete and the *Annona Militaris*

Part of Crete's economic role in the late-Roman period was geared toward supplying military forces stationed around the Black Sea. While this is more evident in the 6th and 7th centuries, finds of Cretan vessels at the sites of Babadag-Topraichioi (Opaït *et al.* 1988, 223, type 11) and Callatis (Scorpan 1977, 284, type 19) in the 4th and 5th centuries hint at this connection. The stimulus for Crete's involvement in these supply networks may be traced to the emperor Diocletian. According to Barnes (1976, 177–8, 181; 1982, 196), Diocletian spent much of his time during the final decade of the 3rd century attending to military matters along the Danube frontier. This included organizing supply networks for these forces. The Aegean was one region he co-opted due to its proximity and ability to produce agricultural surpluses. Finds of LRA1 and LRA2 amphorae at northern military sites, produced in the Aegean and the Levant as wine and olive oil containers, support the idea that Diocletian organized an *annona militaris* (Karagiorgou 2001; Opaït 2004, 96). Swan (2007, 261–2) notes that other eastern Mediterranean amphorae also carried goods as part of this *annona*. For instance, the Agora type M273 amphora, believed to be a predecessor of the Samos Cistern Type, is



common around the Black Sea from the 3rd–6th centuries AD.

A decree dated to AD 536 issued by the emperor Justinian offers further support that the Aegean was a primary supplier of the *annona militaris* to northern military forces (Jones 1964, 280). Several sources (John Lydus, *Mag.* 2.28–29; Just., *Nov.* 41) relate that Justinian's decree also created the *quaestura exercitus*, a magistracy designed to ensure the efficient supply of troops stationed along the northeastern frontier. The regions under the control of this new *quaestor* were Moesia Secunda, Scythia, Caria, Cyprus, and the Cyclades. This geographic disparity fits with the *annona*, because armies were stationed in Moesia Secunda and Scythia, and supplied from Caria, Cyprus, and the Cyclades. While Crete was part of a separate prefecture, the distribution of Cretan amphorae in the 6th and 7th centuries argues for the island's participation in this military supply network (Fig. 12.3). At least 28 sites preserve evidence for Cretan vessels during this period, 18 of which are located around the Black Sea.

Scholars have identified Cretan amphorae at Black Sea sites for half a century. In 1960, Zeest (1960, 120) published a typology of amphora forms attested in the region, and his form 99 amphora can now be identified as a Cretan type. Now designated as the TRC4 (*Tardo-Romano Cretese* 4), it comprises an ovoid body, rounded shoulders, a cylindrical neck terminating in a slightly outward-thickened rim with rounded lip, and oval handles (Portale and Romeo 2001, 306–7; Yangaki 2005, 191–2). The TRC4 is ubiquitous in the region, having been found at Argamum, Histria, Iatrus, Ibida, Independenta, Illychovka, Khersonesos, Khersonesos de Zeno, Kitei, Panticapaeum, Tomis, Tsibillium, Tyritake, and Zelenii Mys (Böttger 1967, 275, no. 48; Opaît 2004, 24; Sazanov 2007, 807–8). Another possible Cretan type attested in the region is the LR14 amphora (Riley 1979, 232), also known as Saraçhane Type 22 (Hayes 1992, 69). Opaît (2004, 24) has suggested a Cretan provenience for this form based on fabric. Around the Black Sea, it is found at Argamum, Axiopolis, Histria, Independenta, Constantinople, and Tomis (Opaît 2004, 24). Outside of the Black Sea, it appears at Berenice (Riley 1979, 232) and Corinth (Slane and Sanders 2005, 278, no. 4.22). Some LRA2 amphorae found around the Black Sea could also be Cretan. Reynolds (2010a, 306, n. 473; 2010b, 97, 100) believes that many of the LRA2 vessels imported to Buthrotum after AD 550 have a Cretan provenience. The revised typology of Cretan amphorae includes an

imitation LRA2 form known as the TRC10 (Portale and Romeo 2001, 311). Deciphering the provenience of LRA2 amphorae is problematic due to the number of attested fabrics, but given the presence of possible Cretan LRA2 at Buthrotum, the export of this type to northern military sites is feasible. If some LRA2 vessels at Black Sea sites are Cretan, this would mean that the island's contribution to the *annona militaris* was more extensive than can currently be appreciated.

Crete's longevity as a supplier to northern military forces is also important. Based on an analysis of TRC4 vessels from several Black Sea sites, Sazanov (2007, 807) observes that they are present from the second quarter of the 6th century until the third quarter of the 7th century. The early date coincides with Justinian's decree in AD 536. That Crete could continue supplying these sites until the third quarter of the 7th century indicates that the island was able to ship products to the north even as exchange systems became more and more localized (Wickham 2005, 792–4). By the end of the 7th century, however, Crete, along with other regions of the eastern Mediterranean, was hindered by increased naval threats from Arab regions and by the collapse of most trade networks.

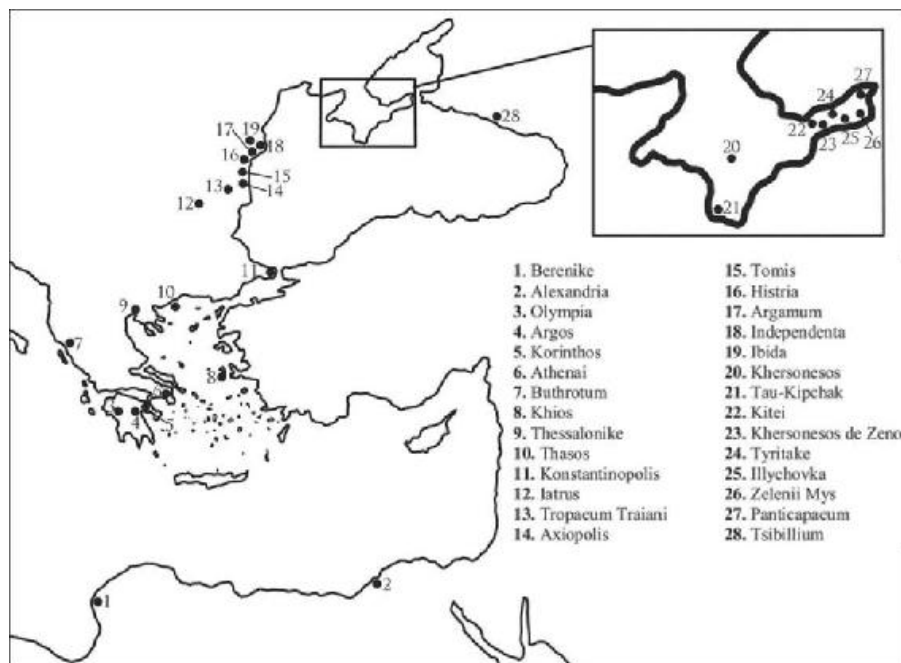


Figure 12.3 Distribution of Cretan amphorae, 6th–7th centuries AD. Drawing by author.

### Crete's other economic connections in the 6th and 7th centuries

Cretan goods were not shipped exclusively to sites around the Black Sea. While the *annona militaris* and supply of Constantinople took precedence, a degree of free-market exchange still remained in place. In the 6th and 7th centuries, Crete operated only within supply networks based in the eastern Mediterranean. Finds at western sites are unattested. In the Aegean, Cretan amphorae are found at Argos (Aupert 1980, 440, no. 326; Ivantchik 2002, 383, no. 130; 388, no. 131), Athens (Robinson 1959, 115, no. M325; Böttger 1992, 371, no. 72), Corinth (Williams and Zervos 1988, 98, no. 4; Slane and Sanders 2005, 278, nos 4.22, 4.26), Olympia (Martin 1996, 129; 2000, 430), Thasos (Abadie-Reynal and Sodini 1992, 60, no. CC361), and Thessaloniki (Pazaras 2009, 225), in addition to Alexandria in Egypt (Marangou 2004, 1035, nos 12, 14) and Berenice in Cyrenaica (Riley 1979, 233, no. D377). The types of amphorae recovered from these sites point toward private exchange rather than the residual effects of Crete's participation in the *annona*. Most of these sites produce examples of TRC1 or TRC2 vessels, amphora forms characterized by globular bodies, conical necks, outward-thickened rims, and oval handles. The predominance of TRC4 at sites around the Black Sea while the TRC2 appears mainly at Mediterranean sites suggests that Crete was involved in multiple systems of exchange. Cross-over is minimal, with TRC1/2 found at Iatrus (Böttger 1967, 259, no. 2) and Independenta (Opaiț 1988, 151, no. 136) around the Black Sea, and the TRC4 at Argos (Ivantchik 2002, 351, type 8-1) and Athens (Robinson 1959, 115, no. M325) in the Mediterranean. Why different amphora forms supplied products to different regions is an intriguing issue and one that deserves further analysis. The extent to which separate regions of Crete engaged in these different modes of trade will be discussed below.

One region in the eastern Mediterranean with which Crete appears to have had minimal contact is Constantinople. Only a small number of LR14 amphorae, a form that could be Cretan, have been found at the site (Hayes 1992, 69). Other Cretan vessel types have yet to be identified. Wickham (2005, 708) has speculated that olive oil and grain shipped to Constantinople were state supplied, but wine was not. If wine was the primary product packaged in Cretan amphorae, this could provide a possible answer. Perhaps the island was not able to penetrate the capital's wine market, which was dominated by Judaea and other regions of the Aegean (Wickham 2005, 708). The draw of Cretan wine to this area was the *annona militaris*, and it seems clear that the supply of the military and of Constantinople were

separate. A caveat, though, is that pottery publications from Constantinople are limited and Cretan vessels may still be identified.

One final consideration for Crete's economy in the late-Roman period is that amphora-borne goods were not the only exports. During the early Roman period, literary references mention a diverse number of products from Crete, many of which are archaeologically invisible. These include dyes, foodstuffs, medicinal plants, and timber. Harrison (1993, 115–7) discusses a number of these commodities, noting that several were highly regarded for their quality. After the 3rd century, however, literary references concerning all aspects of Crete, including its economy, are rare, and we must instead turn to documents post-dating the Roman period for indirect evidence of Crete's diversity of exports. For example, the Cairo Geniza, a collection of fragments from Jewish manuscripts discovered in a synagogue in Old Cairo (Fustat) in the late 19th century, provides evidence for economic relations in the Mediterranean mainly between the mid-10th and mid-13th centuries AD. This archive has several documents that mention exports of medicinal plants and cheese from Crete (Goiten 1967, 46–7). In the late 1st century AD, Pliny, in his *magnum opus* on natural history, described Crete as the best source for medicinal plants in the Roman world (Pliny *HN* 25.53, 25.94). Export of these plants would have formed an important part of Crete's economy in the early Roman period. Evidence from the Cairo Geniza suggests that, unless there was a hiatus in their supply between the early Roman and post-Roman periods, exports would have continued during the 4th through 7th centuries.

Other types of commodities can also be considered. In discussing the Mediterranean slave trade, several 8th and 9th century texts mention that slaves were transported to Crete. While McCormick (2001, 252) speculates that Crete served mainly as a temporary stopover for this trade, it is also possible that the island could have engaged in the exchange of slaves during earlier centuries. Overall, we should recognize that Crete's export economy in the late-Roman period was likely more diverse than the amphora record demonstrates.

## **Transformations on Crete**

An examination of amphora evidence demonstrates that Crete's export economy continued to function during the late-Roman period. If we now turn the focus to Crete itself, we can see that the island underwent several transformations to its economic infrastructure

during this period. This includes changes to amphora production and standardization, modifications to settlement patterns, and increased dependence on foreign imports. Understanding these changes is important for contextualizing Crete's export economy in the late Roman period.

### ***Amphora manufacture***

Since much of the above discussion relates to amphora-borne commodities shipped from Crete, consideration of changes to the manufacture of these vessels is necessary. During the early Roman period, Crete appears to have engaged in amphora standardization. Four amphora types were manufactured between the 1st and 3rd centuries AD (Fig. 12.4), although the Zemer 57, suggested to have a Cretan origin (Reynolds 2010b, 91), could be a fifth type. The manufacture of this small number of specific forms over several centuries implies a concerted effort to package commodities in vessels identifiable as Cretan. When discussing the production of amphorae across the Roman world, Peña notes:

The frequency with which literary texts and *papyri* refer to *amphorae* by specific names suggests that many of the inhabitants of the Roman world were able to identify several different classes of *amphorae* at sight, and may have tended to regard each of these as containers for a general type or specific variety of wine, oil, fish product, or fruit. (Peña 2007, 64)

As corroborating evidence, Peña (2007, 65) cites a story from Pliny (*HN* 14.66) where inferior wine from the region of Taurominium in eastern Sicily could be mistaken for a superior product from Messana, located farther north in Sicily, when packaged in a specific type of vessel. Thus, when a consumer encountered an Amphore Crétoise 1 vessel, for instance, he or she may have recognized the contents and their origin even without viewing a *titulus pictus*.

One caveat, however, is that two of the early Cretan forms, the Amphore Crétoise 2 and Amphore Crétoise 4, were imitations of amphora types from the Aegean islands of Kos and Rhodes respectively, which would hinder specific identification of these vessels types as Cretan. Hesnard (1986, 75) has argued that imitation amphora types were intended to carry the same type of product as the native region. In other words, Cretan farmers may have been producing Koan and Rhodian varieties of wine in addition to local vintages. From an economic perspective, the manufacture of imitation

amphorae makes sense. Islands like Kos and Rhodes had well-established markets for their products, and Cretan merchants may have taken advantage of this.

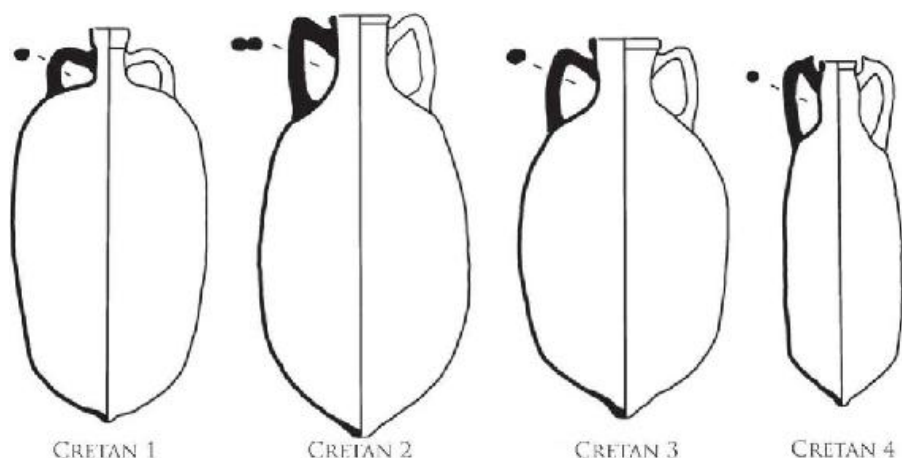
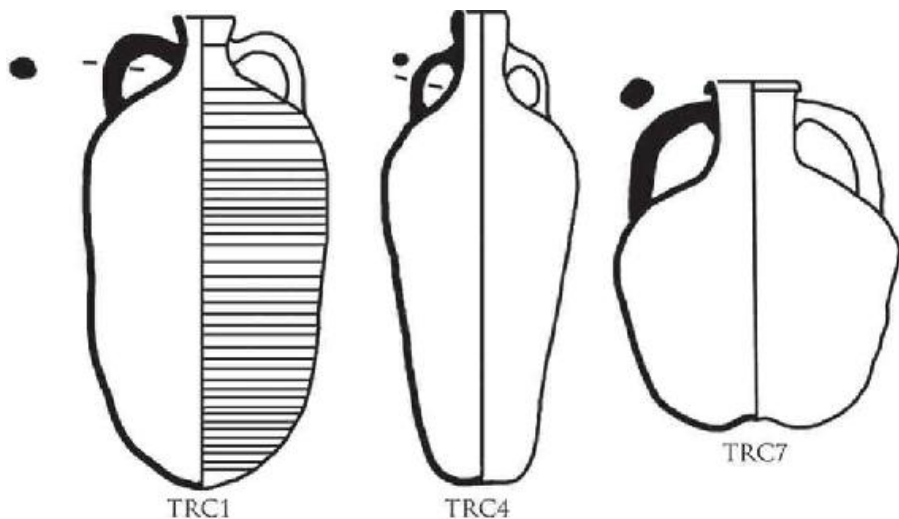


Figure 12.4 Cretan amphora types manufactured from the 1st–3rd centuries AD. Drawing by author.

During the 4th and 5th centuries, amphora standardization is maintained. Vessels manufactured at this time evolved from the Cretan 1 type, which is characterised by a rounded bottom, ovoid body, cylindrical neck, oval handles, and a thickened, rounded rim. Designated as MRC forms (*Medio-Romano Cretese*), they show minimal variations across the known types (Portale and Romeo 2001, 275–9; Yangaki 2005, 185–9). This situation, however, changes by the 6th and 7th centuries. For this period, the revised typology of Cretan amphorae attests 16 distinct forms (Portale and Romeo 2001, 302–13; Yangaki 2005, 189–97), not including the LR14, which could be Cretan in origin (Opaiț 2004, 24). Yangaki (2007, 768–9) has noted a dichotomy in the types of amphora produced during these two centuries. Types evolved from the Cretan 1 still appear, including the TRC2 and TRC4, but there is also a new series of smaller, globular amphorae that developed in the 7th century (Fig. 12.5), such as the TRC7.

Some debate exists as to the origins and function of these globular vessels. It has been proposed at Gortyn that they served mainly as domestic storage containers (Portale and Romeo 2001, 392–3). They were used in small quantities for exports, however, since one Cretan globular amphora has been identified at Tau-Kipchak in the Crimean peninsula (Sazanov 1997, 92, fig. 2.21), and another may be present at Emporio on Chios (Balance *et al.* 1989, 109, no. 238). Since they

tend to be smaller in size than other Cretan amphora types, Yangaki (2007, 770) suggests that they could be indicative of economic problems on the island. Overall, their distribution across Crete is not even. The majority of these globular forms have only been identified at Eleutherna (Yangaki 2005, 193–7), with a small number attested at Gortyn (Portale and Romeo 2001, 308, 311). Other sites have produced almost no evidence for them, although pottery publications for this period are lacking. One possibility is that amphora standardization on Crete had broken down to an extent, with producers concentrating more and more on manufacturing forms suitable for local economies. Amphora production on the island is difficult to document at this time since only one late-Roman kiln site is known at the northern port city of Chersonisos (Portale and Romeo 2001, 389). Portale and Romeo suggest that amphora production across Crete had moved inland and that the output was now devoted more to serving local needs.



*Figure 12.5 Some late Roman Cretan amphora types. Drawing by author.*

The idea of amphora standardization is still relevant to some extent, though, since TRC2 and TRC4 amphorae, along with LR14, were the main vessel types shipped from the island in the 6th and 7th centuries. A distinction may be evident, though, between which sites supplied products in which type. The TRC4, for instance, is common at Gortyn where it comprises approximately 11% of the locally produced amphora assemblage (Portale and Romeo 2001, 302–12). This form may have been manufactured at Chersonisos (Leatham and Hood 1958–1959, 273, fig. 9.4; Marangou-Lerat 1995, pl. 10, figs 47–8; Portale and Romeo 2001, 389, n. 110) and was common at Itanos

in the far northeastern corner of the island (Xanthopoulou 2004, 1022). At other sites on Crete, this vessel type is rare or unattested. Such is the case at Eleutherna, where only a few fragments have appeared (Vogt 2000, 91–2; Yangaki 2005, 191–2), and at Hierapytna on the southeast coast, where TRC4 amphorae are absent (Gallimore 2011, 331, 489). In contrast, TRC2 vessels are abundant at Hierapytna in late-Roman contexts (Gallimore 2011, 336–7). Since TRC4 are dominant around the Black Sea, this might suggest that only certain centres on Crete were involved in the *annona militaris*. Other sites may have engaged in private exchange but did not benefit from this state-organized trade.

### ***Settlement patterns***

Changes in settlement patterns can also be noted across Crete during the late-Roman period. The island has benefited from widespread interest by survey archaeologists, most of whom have collected data concerning the Roman landscape. Several surveys have documented an increase in the number of attested settlements after the 3rd century AD, including the Gournia (Vogeikoff-Brogan 2012, 85), Kavousi (Haggis 2005, 87), and Vrokastro (Hayden 2004, 275–6) projects in east Crete, the Lasithi Plain (Watrous 1982, 25) and western Mesara (Tsougarakis and Angelomatis-Tsougarakis 2004, 370–1) surveys in central Crete, and the Sphakia survey (Moody *et al.* 1988, 87–90) in west Crete. While a few other regions display either settlement attrition or consistency with early Roman levels, such as the Akrotiri peninsula (Raab 2001, 156) in the west and the Ayiofarango Valley (Blackman and Branigan 1977, 75) and Kommos (Hope Simpson 1995, 399–400) in the central part of the island, an overall increase in landscape exploitation is apparent.

A recent critique of Greek survey archaeology is, however, relevant in this context. According to Pettegrew (2007, 743–4; 2010, 218–9) and Sanders (2004, 165), there is differential ability in identifying pottery recovered during survey. In other words, it is easier to recognize late-Roman pottery, meaning that the increase in settlement numbers seen in regions like Crete could be artificial. While this is an important consideration, even if early Roman settlement levels on Crete were higher than is currently interpreted, this should not dissuade us from appreciating the degree of landscape exploitation evident in late-Roman times (Francis, this volume). If Crete's export economy had failed by the 4th century, a corresponding attrition in



settlement might be expected. Instead, we can interpret either an overall consistency, if we apply the theory of Pettegrew and Sanders, or an increase evident in the data at hand.

### ***Import economy***

While much of the above focus has been on documenting evidence for Crete's export economy in the late-Roman period, the island's import economy also underwent a change at this time. Amphora evidence from Eleutherna, Gortyn, and Hierapytna suggests that at least some sites on Crete were receiving a higher proportion of imported goods than they had in earlier periods. At Eleutherna, the proportion of Cretan amphorae in ceramic assemblages drops from approximately 88% in the 3rd century to 51% in the 5th and 62% in the 6th centuries (Yangaki 2005, 302). Similar developments appear at Gortyn, where Cretan vessels drop from 84% of finds during the 1st through 4th centuries to 60% during the late 4th through 8th centuries (Portale and Romeo 2001, 387). At Hierapytna, the drop in some contexts is from 82% in the early Roman period to 66% in late-Roman times (Gallimore 2011, 570–1).

There are multiple ways to interpret this evidence. First, Cretan products could be under-represented in these figures if amphorae were no longer as widely used for transporting local goods. Non-ceramic containers could have replaced amphorae, for instance. Since almost no late-Roman amphora production sites are known on the island, it is difficult to compare levels of production with earlier periods. Another option is that there was an increasing amount of imports arriving on the island. This does need to be viewed in a negative light, but instead may be indicative of the island's position within multiple exchange systems at this time. In analyzing the eastern economy during the late-Roman period, Wickham (2005, 781) has noted that there are strong indications of trade networks linking all parts of the eastern Mediterranean. Citing the distribution of LRA2 and LRA3 vessels in particular, he observes:

The capillary distribution on a smaller scale of both LRA2 and 3 in the Aegean...is doubtless a sign of a commercial network, linking every type of site on the coast and in the islands, not least the other great cities, such as Smyrna, Ephesos, and Thessaloniki. (Wickham 2005, 781)

Thus, the increasing presence of goods from the Aegean, Egypt, Judaea, and other regions shows that Crete was a partner in this

‘capillary distribution.’ While the island’s agricultural production permitted the export of surpluses until the third quarter of the 7th century, there were still opportunities to receive foreign goods as supplements.

## Conclusions

A careful examination of available evidence shows that, contrary to the standard view of Crete’s export economy failing by the end of the 3rd century AD, the island’s economic connections continued to flourish into the late 7th century. A shift in focus is apparent for this later period, with much of the supply directed toward military forces stationed around the Black Sea. The ubiquity of finds attested in that region indicates that the island became part of the *annona militaris* in the 6th and 7th centuries. There is also evidence for private exchange. In the 4th and 5th centuries, this free-market trade reached across the Mediterranean, but by the 6th and 7th centuries it was focussed primarily in the east. The island of Crete also underwent changes during the late-Roman period relevant to its economic infrastructure, including modifications to amphora production, changes in settlement patterns, and an increased presence of imports. Overall, Crete had numerous economic connections after the 3rd century and deserves to be featured more prominently in discussions of late-Roman trade.

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## Theatres, plays and the ‘3rd century crisis’

*George W. M. Harrison*

The 3rd century is when the money ran out.

This is the fundamental, underlying reality of Roman society, and one that finds a strong parallel in early 21st century European and North American economies. It places current scholars, more than our predecessors in happier times, in a position where we can better understand the consequences of this stark, inescapable fact. Perhaps it also gives us some small familiarity with and insight into the strains the 3rd century ‘melt down’ put on institutions, as well as on the people responsible for running the government. Renascent intolerance in forms big and small might likewise give us the sympathy and patience to assess the consequences of the forces that were unleashed by, or took advantage of, the admission of the central government that it was no longer able to maintain levels of spending and splendour.

It would be irresponsible to push these parallels too far. There are numerous ways in which the Roman government must have been in a much less precarious position (Allen 2009). The Roman economy, for example, was never entirely monetized; that is, economy at the local level remained largely barter and, at all times, one could pay taxes in kind rather than in cash. Increasingly, this became the preference of the central government, especially in regions with an active military presence, as the emperors were forced several times to debase coinage – their more literal ‘melt down.’ The first debasement of the coinage can be attributed to Nero, followed also by several of the so-called good emperors, such as Trajan, to finance the Dacian Wars. Coinage was reduced to 88% purity (Bennett 1997, 127–31; Bowman and Wilson 2009; Scheidel 2009; Howgego 2009), and the process accelerated to its natural conclusion in the series of short reigns subsequent to the Severans so that by the second half of the 3rd century, Roman coinage no longer commanded respect or confidence. By the reign of Gallienus, for example, the bouillon content of coins had been reduced to 4% (de Blois 1976, 161; Lewis 2007, 23). More to the point of this contribution, our modern society has become inured to the massive financial drain of sports facilities that need to be

built anew from the ground up once a generation, a result of either unsound construction or changing fashion, driven at least in part by local pride and competition. Although baseball parks, cricket pitches, and football fields both American and European grab the most headlines and insincere hand-wringing, other kinds of Roman public-use complexes, including theatres, required substantial outlays of funds and labour (Kay 2014).

## Theatres

*Gymnasiis indulgent Graeculi* (“Greeks are devoted to gymnasia”), Trajan acerbically wrote at the bottom of a letter (*rescriptum*) sent to him by Pliny (X.40). Although not in reference to Crete, the exchange of letters between Pliny and Trajan is the most frank discussion of construction to survive, and, one would hazard to guess, is applicable elsewhere within reason. Gymnasia were multi-use complexes in which there would have also been, as at Gortyn, classrooms and altars (Lippolis 2006, 49); they could even have separate dining rooms for *philetores*, as opposed to *eromenoi* (Trombetti 2013, 144, n. 1258, n. 1259, for Crete). Pliny’s letter (X.39), however, is most concerned with theatres: the people of Nicaea started construction on a gymnasium from their own funds, bluffing that the emperor could be forced to pay for the theatre from the imperial fisc. The replies (*rescripta*; X.22, X.107) of Trajan to Pliny are of direct relevance to Crete since copies (*nota*; compare X.22) of decisions to one governor were circulated to other governors and eventually became part of the standard instructions to all governors (*mandata*; compare X.22, X.30, X.56). Thus, what Trajan decided for Bithynia also became law in Crete.

The correspondence between Trajan and Pliny during the latter’s term as governor of the province of *Bithynia et Pontus*, which incorporated Byzantium (Constantinople), Nicaea, Nicomedia, and Prusa, is illuminating about the cost and pace of construction of theatres and other large projects during the first decades of the 2nd century AD. There was an elaborate cat-and-mouse game in which, at imperial expense, cities hired local architects who chose unsuitable locations, paid local masons who used substandard materials, and employed unskilled and unwilling labour: the cities thus profited repeatedly when aqueducts (X.37, Nicomedia; X.90, X.91, Sinope), canals, (X.41, X.61, X.62, Nicomedia), baths (X.23, X.24, X.70, X.71, Prusa; X.39, Claudiopolis), sewers (X.98, Amastris), and theatres

(X.39, Nicaea and Claudiopolis) had to be rebuilt, sometimes even before they were completed. Even though Trajan himself (X.38) was aware of the peculation of locals, he often resisted Pliny's (X.17B, X.18, X.19, X.20, X.33, X.37, X.39 [twice], X.40, X.41, X.42, X.90) repeated requests for outside surveyors, architects, hydraulic engineers, and masons because Pliny had no confidence in the probity or qualifications of locals (X.19).

Bithynia may be an exception: Trajan seemed to admit as much (X.32) when he wrote to Pliny that he had been assigned the province because of its long term and notorious problems: *meminerimus id circo te in istam provinciam missum quoniam multa in ea emendanda adparverint* ('we [the "royal we"] will have remembered that you were sent to this province since in it there will have been many things in need of straightening out'). Trajan returned to this theme in his next letter to Pliny (X.34): *meminerimus provinciam istam et praecipue eas civitates eius modi factionibus esse vexatas* ('we will have remembered that this province and especially its citizens are consumed by one or another kind of factionalism'). The period of Pliny's governorship of *Bithynia et Pontus*, however, occurred while Trajan was engaged at Rome in construction of the *aqua Traiana*, his baths, and his *forum*. Considerable information on the speed of construction, the various contractors involved, and how the project was streamlined survive for Trajan's projects at Rome (Russell 2013, 201–55); none of those procedures, at least on the evidence that is extant in Pliny, had been followed in Bithynia before his arrival. What stands out is the commitment of both Trajan and Pliny that the projects should be done correctly, rival dynastic Hellenistic predecessors, and last forever, as Pliny wrote to Trajan (X.41.5): *sed hoc ipso – feres enim me ambitosum pro tua gloria – incitor et accendor ut cupiam peragi a te quae tantum coeperunt reges* ('but in this [project] – you will say I am ambitious for your glory – I am excited and inflamed as I desire to be goaded on by you for things which only kings had begun').

The amount of expense and effort lavished on Chersonisos in Crete, especially its Roman *forum*, visible to even the casual tourist today, shows in Crete the general truth of Pliny's boast. Parallels in expense and careful workmanship are everywhere on Crete: one need only compare Kissamos during the Roman Empire (Kouremenos, forthcoming), with its roads, theatres, and other public amenities, including two aqueducts (Kelly 2004; 2006). Chersonisos was where Plutarch made land in Crete on the voyage that would take him to

Egypt, and it was also first port of call of Apollonius of Tyana's not entirely credible circumnavigation of the island in AD 46 (Francis and Harrison 2008). It obviously, like Kissamos, had achieved the status of a major port city under the Romans, perhaps in reward for having supported Rome against the Cretan cities that provoked the Roman conquest of Crete (Harrison 2006). It is thus unaccountable that Chersonisos is missing from the elder Pliny's catalogue of the 40 Cretan cities (*HN* 4.12.59; Harrison 2011), although it does appear in the 4th/5th century AD *Tabula Peutingeriana*.

The basic shape and size of the theatre at Chersonisos has been known since the time of the Venetian traveller Onorio Belli, who drew the plan repeated, for example, in Sanders (1982, 59–61, pl. 18). Pillaging from the site for re-use in local building is rather recent; the report of Hatzidakis at the end of the Cretan War of Independence indicates that the stone seats and even much of the stage building were still present (Mandhalaki 1999). What is significant for this contribution, however, is fairly obvious even to the casual visitor to the site: the size and imposing strength of its limestone construction. Great care was paid to structural and decorative details, its orientation, and its place within the new *forum*. The orientation of the theatre within a civic centre grid would have required considerable planning as well as the removal of preexisting buildings in the vicinity, which suggests that the Romans attached great importance to the events that took place in the theatre. Repairs indicate that functions in the theatre received ongoing governmental support, itself a sign that the activities in the theatre continued to be a focus of communal identity.

Compared to Chersonisos and Kissamos, Aptera is a much older city. It figures prominently in the Classical and Hellenistic struggles in Crete, and one surmises that it was, like its harbour of Minoa across Souda Bay, a major benefactor from the Romans against Chania, which had been one of the centres of resistance. To date, one theatre has been excavated at Aptera (Niniou-Kindeli and Chatzidakis, this volume). Its location has been known since Basilicata's visit before 1619 (Porphyriou 2004, 73), as confirmed later by Pashley; the excavator (Niniou-Kindeli and Christodoulakos 2004) believes there must be another, larger theatre at the site because of the extremely small size of the orchestra (c. 5 m). The first phase of the excavated theatre dates to the Hellenistic period, and it was significantly renovated during the early Roman Empire. Once again, the quality of

the materials, the mortar, and the dressed stone are impressive, as was the amount of effort that went into the Roman renovation: for example, the slope of the cavea was increased from 16° to the 28° required for acoustics of the Roman theatre design. Of particular interest is the observation of the excavator that Hellenistic ceramic remains in the *cavea* tend to be high quality and include a substantial number of miniatures, while ceramics associated with the first Roman phase (1st and 2nd centuries AD) tend to be average quality, everyday objects. The association of miniatures with ritual in the Hellenistic phase is consonant with the place of theatres as part of festivals in the Greek world, while the Roman wares remind one that eating was often part of the activity of watching a play for audiences at Rome, from which one might extrapolate for audiences outside of Italy during the Roman Empire.

Three Roman theatres to date have been excavated or are under excavation at Gortyn: the Classical outdoor theatre on the Acropolis (Barresi 2004); the theatre by the Temple to Pythian Apollo (Bonetto and Ghedini 2005); and the Grande Teatro Romano (Montali 2006; Lippolis, this volume). The *odeion* at Gortyn would have been primarily a hall for concerts, but other uses are emerging. Theatres were not the only places in which plays could be, and were, performed: the curved ends of *stadia* (*sphendon*) were used for plays (Lippolis 2004; Sweetman 2013, 198–200), especially since they were often, as at Gortyn, incorporated into the educational functions of the gymnasium. The amphitheatre (Di Vita 1986–1987), at a minimum, would have had skits between combats; Di Napoli (2010) believes that the curved end of the horse-racing park at the edge of town was, or at least could have been, rented out for staging plays (Di Napoli 2010).

Gortyn, as the largest city in Roman Crete, could be expected to benefit most in the first century of Roman rule, and it did. Current excavations of the *odeion* at Gortyn are proving it to have Augustan foundations, and repairs and elaborations continued through the 3rd century and beyond (Di Vita 2010, 108–18). Evidence of high balustrades confirm that this *odeion* was converted to allow beast hunts in the orchestra, while pipes and hydraulic cement, possibly as early as the Trajanic repairs (Sear 2006, 296), indicate that it was remodelled to hold water in aid of some spectacle (Harrison 2015). The pressure of the water on the lower seats and on the stage would have been considerable, and only a structure of the highest quality could have withstood such force.

If the 3rd century was when the money ran out because of the attention of emperors from the 1st century into the 3rd century to large scale-large cost civic constructions, the 3rd century was also a period in which lower-cost maintenance was more often than not all that was required; new (i.e., vastly more expensive) civic construction became increasingly rare. Reconstructions during the 3rd century, such as the second Roman phase at Aptera (Niniou-Kindeli and Chatzidakis, this volume), can be shown to be of lower quality. At least through the Severan dynasty (ended AD 235), the quality of the engineering and the construction, such as the new larger open-air theatre at Gortyn (Montale 2006), is of a very high-quality limestone, now quarried locally. It is clear that urban engineers had put great thought into anchoring this new major civic structure within the imperial-era civic grid of the Roman city. Statues and reliefs, including an eastern-style Nemesis (Hornum 1993; Wittenberg 2014), judge of drama contests but also of gladiatorial pairs, were part of a rich decorative program (Sear 2006; Harrison 2015).

The inclination of scholarship, such as, for example, A. Di Vita on the so-called Praetorium in Gortyn (1986–1987), has been to see such reconfiguration of public structures in the 3rd and 4th centuries as signs of poverty. A more compelling counter-argument would be to see the reworking of the Hellenistic theatre at Aptera, for example, as thrift. Sear (2006) has demonstrated, if demonstration was needed, that construction of Roman theatres was modular. Modular construction not only kept costs down – theatres take years to build and so resist the financial incentives of ‘mass production’ – but it was driven, rather, by the twin imperatives of structural integrity and acoustic necessity. This is not the place for a laundry list of pre-Roman theatres in Crete, or more broadly those in Greece whose recovered Roman ceramics prove they remained in use (Di Napoli 2010). It is sufficient to know that Gortyn alone (see above) had at least half a dozen venues in which plays could be put on during the Roman period and that there were numerous theatres across the island with capacities of over 1000; for example, see Di Napoli’s estimate for the theatre on Leuke, an islet off the south coast of Crete (Di Napoli 2010, 818). All of these structures have high-to-late empire construction, renovation, and use.

### **What theatres want are plays**

*Didascaliae*, lists of performances with dates, such as survive in part



for the great Athenian dramatic festivals, are unknown for the Roman Empire. *Inscriptiones Creticae* preserve some tantalizing fragments that look to be costs associated with a play, or perhaps more broadly a festival (Harrison 1993, 248–53), but no single imperial inscription gives the name of a play or a date or a place where it was performed. Increasingly, history was where the emperor and his army was, and so we are not as well informed as for the Roman Republic through to Domitianic Rome as for Periclean Athens, where plays mattered in a meaningful political debate (e.g., Griffith 2013).

Mattingly (2011, 203–45), in his discussion of ‘identity,’ is right to assert that Romanization and its off-shoots have had value in assessing the Roman Empire, but his evidence perhaps applies best when the empire was at its most inclusive (2011, 217). As the grip of the central government became less sure, *poleis*, regions, and provinces increasingly looked for re-assurance in reasserting their old identities. Alston and Spentzou (2001, 223) write of “[a concept of] Rome [that] existed alongside other identities, binding them into a greater whole.” Their perception of “fissures of acculturation” (Alston and Spentzou 2011, 194) as the empire disentangled accords perfectly with the ‘retro styles’ that Sweetman (2013, 71–2) perceives in the link between mosaics and cultural identity on Roman Crete (Sweetman 2013, 2–6). Sometimes the connection is surely to a play favoured by the owner of the home, such as Menander’s *Plokion* (‘Necklace’) for Chania (Sweetman 2013, 57–8) or the mosaic from Kissamos of Menander’s *Sikyonians* and *Theophoroumenoi* (Sweetman 2013, 58); arguably, the Poseidon and Amyclone mosaic from Chania (Sweetman 2013, 239–40, pl. 8) could reference a satyr play on that subject by Aeschylus (Krumeich *et al.* 1999, 91–7).

In the absence of inscriptional evidence for titles of plays produced, mosaics become the best ‘play bills’ of what myths were the most popular and whose dramatized forms thus are more likely to be in production. Dionysos, satyrs, and maenads, particularly with theatre masks, in places such as Chania and Kissamos (Markoulaki 2009; 2011) are generally taken to signify that the mosaic in which they are frames or the central feature are meant to reference dramatic versions of myths, in the same way that masks or stages on vases increase the likelihood that the vase represents production and not just the myth (Taplin 2007; Taplin and Wyles 2010). More intriguing is when plays focused on a mythological figure with whom the town claimed a connection. Paphos on Cyprus, for example, was notorious in asserting

that their local queen Cassiope won the beauty contest against the Nereids, for which her daughter Andromeda was chained to a rock. Mosaics indicate that a play on the subject remained in production well into the 6th century; see, for example, at Paphos, House of Aion (4th century AD), but also Zeugma and Antioch (5th century AD), and Madaba in Jordan (6th century AD).

Crete is at least as rich in myth, and its mosaic record shows that the notorious women in Cretan myth were staples in art and on the stage during the Roman Empire (Armstrong 2006). The story of Phaedra and Hippolytus, known from versions of both Euripides and Seneca, was clearly a favourite in late antiquity in places such as the House of Dionysos in Paphos (3rd century AD), Antioch (4th–5th century AD), Sheikh Zouaid near el-Arish (3rd century AD; Montserrat 2012, 218–21), and even in early Islamic Madaba (Jordan), where the Judeo-Christian story of Potiphar's wife was substituted for the pagan myth (Bowersock 2006, 56–63), that is, the woman who accused her stepson of rape in order to cover a failed seduction.

Pasiphaë, mother of Phaedra, gave birth to the Minotaur by copulation with a bull. Daedalus showing the faux bull in which Pasiphaë was meant to hide is well known from Pompeian frescos in the House of the Vettii, the Casa degli Scienzati (Lorenz 2008, 234–7), and the House of Meleager (Lorenz 2008, 332–8). In mosaic, the scene is best known in the example from the House of Poseidon (2nd–3rd century AD) at Zeugma (Dunbabin 2013, 149–67). There, Pasiphaë sits pensively as Daedalus demonstrates the legs he is constructing for the frame. The bull's head lies beneath Pasiphaë, where it is being poked by a small Eros. A condemned woman as Pasiphaë entered by an actual bull is known from Roman staged executions (Mar. *Spect.* 6; Coleman 2006, 62–5) but fragments remain of Euripides' *Kretes*, in which the chorus of Cretan men ferret out the secret of the birth of the Minotaur. In the longest surviving fragment, Pasiphaë shifts the blame on Minos: he had promised to sacrifice a bull to Poseidon, and when he did not, Poseidon (so Pasiphaë) arranged for Pasiphaë to be attracted to it. *Kretes* is unusual in that it probably had a male chorus of satyrs dressed as Cretans (Harrison 2006; Francis and Harrison 2008, 794–5, n. 10), presumably with saturnine erections peeking out from Cretan cloaks; perhaps the costuming was meant to suggest the inter-changeability of satyrs and Cretan men. Satyrs, however, are appropriate for the story of Minos' greed, whose punishment was Pasiphaë's copulation with a bull that resulted in the birth of the

Minotaur. In addition to numerous surviving fragments (Collard and Cropp 2008a, 529–45), plot summaries by Apollodorus and Hyginus indicate that performance of this play continued into the reign of Augustus. More importantly, two of the fragments are revisions with additions belonging to the 2nd century AD, which strongly indicates staging at least until the reign of Marcus Aurelius (Collard *et al.* 1995, 53–78).

A generation later than Pasiphaë, Aerope, daughter of Catreus, son and successor of Minos, was caught having sex with a servant, in one version of the myth, and was sent (or sold) into exile where she cohabited with Pleisthenes before marrying Atreus. By Atreus, she was mother of Agamemnon and Menelaos; by her affair with Atreus' brother, she gave birth to his three sons. The cannibalistic feast that Atreus prepared for his brother is known from Seneca's masterpiece, *Thyestes*. Euripides' *Kressai*, named for the chorus of Cretan women (frag. 465) sent into exile with Aerope (Cropp and Collard 2008a, 516–27), picks up the thread of the story at the point where Aerope had fled back to Crete after the banquet, pursued by Atreus. Euripides also wrote a *Pleisthenes* (Cropp and Collard 2008a, 79–87), which presumably would have told the story of Aerope being sold to Pleisthenes because of the scandal Aerope created at home.

Best known of the Cretan myths, however, is that of Ariadne. Her help to Theseus in the labyrinth was repaid by his treachery in abandoning her. Rescued by Dionysus on Naxos, she became his consort, one of few stable relationships in all of mythology. Given that satyrs discover Ariadne in the myth, it is astonishing that no satyr play is known to have been written on the subject. Ariadne, however, is where Cretan myth and art intersect. Dionysus and his followers appear on the mosaics in the Villa of Dionysus at Knossos (Sweetman 2103, 157–62, pl. 1) and, more to the point, Dionysus comes upon the sleeping Ariadne in a mosaic from Chania (Sweetman 2103, 47–8, 241–4). He and three of his followers are also depicted on a mosaic signed by the artist Meropas in the House of Phidias at Kissamos (Markoulaki 2011). Four tragic masks of old women and slaves are represented below the lower border of the mosaic, indicating a performative context. Two tragic masks of old women were put in as fillers in the corners of a Dionysus mosaic in Chania (Sweetman 2013, 244–7). By a convention of mosaicists, the appearance of Pan behind the right shoulder of Dionysos places the scene outside the city. The legs of a human figure wearing sandals *might* suggest a play in which

Dionysus is spied upon by a non-initiate (initiates, such as maenads, are invariably barefoot), such as possibly Pentheus in Euripides' *Bacchae*. At least three domiciles in Kissamos have mosaic theatre masks (Markoulaki *et al.* 2004).

It is not impossible to believe that Euripides' *Hippolytus* (or even Seneca's *Phaedra* for Latin-speaking audiences in Knossos and Gortyn), or plays set in Crete, such as Euripides' *Kressai*, *Kretes*, or *Pleisthenes*, were put on during the Roman Empire. Plutarch mentioned (*De def. or.* 14 = *Mor.* 417D–E) seeing a festival (εὐρτήν) with a play involving Idomeneus and Meriones, which places him in Knossos where he ran into a friend in 'festival clothing' (πανηγυρικῶς, *Brut. anim. rat.* 989E; Francis and Harrison 2008). Without more context, this is only a surmise, but the passage in Plutarch would seem to infer that Plutarch had seen some play that fleshed out the sparse mentions of Idomeneus and his grand-nephew, Meriones, in the *Iliad*. At a minimum, this adds to the possibility that mythological figures associated with Crete would have been attractive choices for festivals, even if some of the action occurred elsewhere.

### The '3rd century crisis'

What went wrong with Crete, ultimately, can be attributed to forces over which Cretans had little or no control. The list of factors could be a long one but the following four phenomena (climate, entertainments, persecutions, intolerance) have been chosen here because of how they accelerated one another.

#### *Climate*

The most significant challenge was the prolonged heat-and-aridity event in c. AD 200–400 (Moody, this volume). Deep sea core LC21 taken off the northeast coast of Crete shows that summer evaporation in the period under study reached a level matched only by EM III/MM I (J. Moody pers. comm.). Soil study (J. Moody, pers. comm.) at Karphi terms this period a 'Roman dust bowl.' Faunal analysis from Eleutherna (Mylona 2008, 335–48) and elsewhere (Harrison 1993, 350–1) suggests that the 3rd century found an increased consumption of pork, even if sheep still remained the most frequently consumed animal. Evidence from Itanos (Mylona 2003, 103–10) also suggests an increase in fish consumption. Woolf (2011, 153) has noted for the first century "new means of processing and distributing fish products," which must mean something more than *garum* (Wilson 2007; Marzano

2013, 89–122). His *locus* is the Latin west, but fish in the Cretan diet has also been examined (Harrison 2009; Francis 2010; Sweetman 2013, 188–90). Because these activities are so labour intensive, the presence of fish tanks, fish farming, and fish processing (Francis and Harrison 2005; Francis 2010) in late-Roman and early Byzantine Crete is more likely to be a response to changed environmental circumstances than to changing dining fashion.

### ***Entertainments***

Evidence cited above on construction shows Pliny's and Trajan's concerns about building costs. Even at the beginning of the 2nd century AD, there was a great attempt by Trajan to rein in all expenses; special permission was even needed so that Pliny could send his wife back to Italy on imperial transport to look after her declining father (X.45, X.46). Trajan approved (X.44) 12,000 sesterces in expenses requested by Pliny (X.43) to send someone from Byzantium to Rome to congratulate Trajan on his birthday. Both emperor and governor mulled whether a less costly practice could be found, which under Hadrian became a primary function of the Panhellenion (Boatwright 2000; 2002; 2012; Romeo 2001; Doukellis 2007).

Celebrations of the birthday of the emperor, the anniversary of his accession, and for his military exploits were becoming onerous since the *gaudia* they presumed (*vota publica et gaudia*; X.102, X.52) would have been expensive. The cost of public celebrations and athletic contests would have been enormous: a will (X.75) bequeathed 50,000 sesterces to Pliny as his fee to institute *quiquennales Traiani* at Tium and Heraclea; conservatively, the amount left for the games (*agonas*) would have been around 500,000 sesterces. The athletes expected to benefit financially from victories in contests outside of their home cities. Pliny wrote to Trajan (X.118) to moderate a dispute in which athletes demanded their financial reward at the time of their victory from their city (*iselasticus*), rather than having to wait for their triumphal return home. The *iselasticus* had become a transfer of funds from the imperial fisc to individual cities to manage as they saw fit (Pleket 2014, 371); the concern of the athletes was that the money would be gone by the time they got home. Trajan (X.119) came down on the side of the athletes, but expressed the wish that cities would pay for their own prizes (*obsonia*), thereby not requiring imperial support. The cost shifting came at some point around the reign of Caracalla: cities had notoriously diverted to other purposes funds for

*eiselastici* (e.g., SEG 6.1359.8–73) and so the central government from that point on funded only *themides*, that is, athletic contests where athletes competed in their own home towns (Pleket 2104, 372; on cost shifting in general, see now Weiss 2014, 171–94, for Palestine).

One of the largest classes of inscriptions in *Inscriptiones Creticae* for the Roman Empire deals with celebrations of the emperors' birthdays, dates of accession, and other significant events. Archons at games tended to be *curatores annonae* (IC I.xviii.55, Lyttos; IC IV.299, Gortyn), which presumes grain distribution or some other feast at public expense. The 500 *denarii* contributed by Titus Flavius Acestimus (IC I.xviii.55; Harrison 1993, 128–30, 210–1) seems a small sum. Lucius Menander spent an unspecified sum at Lyttos to celebrate the Dacian victory of Trajan (IC I.xviii.16). Matidia Augusta, daughter of Trajan, was celebrated as part of the imperial cult by Wanaxiboulos Komasta (IC I.xviii.20), and in the following year he did the same for Trajan (IC I.xviii.21). Tiberius Claudius Oinobios, one year later (IC I.xviii.23), mentioned the budget for entertainment (ἐκ θεώριας μέρους) but declined to give an amount. Titus Flavius Xenio, similar to the individual in Pliny's letter (X.75), left a bequest (IC IV.300) to fund eight days of celebrations during the year, specifying the birthday of Rome (21 April), the birthday of Commodus (31 August), the birthday of Divus Antoninus (7 March), the birthday of Divus Lucius (15 December), his own birthday (21 Nov), and those of his four children (there was one set of twins) on 15 October, 26 July and 31 July. The only inscription (IC I.v.23) that specifies costs is in poor condition, but it seems likely that it is for a play (Φάλλος and Διονυσιακ...); the sum as preserved is 962 *denarii*, a significant amount of money when compared to the donation of Titus Flavius Acestimus.

Although the *euergetic* inscriptions from Roman Crete belong to the 2nd century, they at least indicate a process that would have spiralled in amount. Eplett (2014, 520–32) cites the stark maths of sponsoring games, overturning the long-held view that gladiatorial combat declined because of a growing aversion to blood sacrifice: in a decree from AD 177, towns had to pay the imperial fiscus 30–150 *aurei* for each gladiator, depending on the ferociousness and experience of the combatant. A *noxius* (criminal condemned to death) could be bought for six *aurei*. The continued public taste is easy to demonstrate: at the end of the reign of Augustus, there were 17 crimes for which one could be condemned to death; by the reign of Constantine, the number

had climbed to 60 (Eplett 2104, 528). It makes sense of Trajan's refusal (X.32) when Pliny had requested (X.31) to use condemned criminals for construction – they had been *damnati in ludum similiaque his* (“into entertainments and things similar to this,” X.31.2). The “things similar to this” would have included spectacular executions on stage as part of performance. Sophocles' *Trachiniae* or the *Hercules Oetaeus*, both of which end with Herakles' death by selfimmolation, are the logical plays to have been performed in which Meniscus was burned alive during the reign of Nero (*Anth. Pal.* II.184) or an unnamed criminal during the life of Tertullian, c. AD 160–225 (*Tert. Apol.* 15.4–5).

### ***Persecutions***

Executions in the theatre, amphitheatre, or horse-racing park increased in popularity during the 3rd century AD; governors were mandated to reserve *noxii* for sale (Eplett 2014, 528). When the judicial process for condemnation appeared to take too long to produce ‘recruits’ for death, courts of *cognitiones* were organized with a single judge, from whose sentence there was no appeal (Eplett 2014, 529). It was at this time that *contumacia* (obstinacy) was added as grounds for condemnation as a *noxius*, a charge that frequently was brought against Christian dissenters. The martyrdom of ten Christians on 23 December AD 250 at Agioi Deka on Crete during the persecution under Decius should be seen in this light. Their obstinacy brought entertainment to the masses and 60 gold pieces to the imperial treasury. Bandy's list of 17 basilica churches in Crete and 23 others earlier than the 5th century indicates a significant Christian community in Crete who could have been brought up on such charges (Bandy 1970–1974).

Early Christianity has been accused of being antiintellectual. One can see, however, how Christianity might react against the theatre on their moral grounds, but also view amphitheatres, theatres, and other performance venues with extreme suspicion because of recent negative experience. The use of these places for executions and of the gymnasia for an educational system that historically supported paganism would have made these structures, which now in ruins are representative of antiquity to us, anathema to Christians. Christian reception of a play, such as Euripides' *Hippolytus* or Seneca's *Phaedra*, which features a Cretan princess, would have been wholly different from ours and from their contemporary non-pagan audience.

## Intolerance

Religious toleration was attempted: Gallienus circulated copies of a rescript (*antigraphes*), preserved by Eusebius (*Hist. Eccl.* 7.13; Harrison 1993, 295–6) ordering soldiers to vacate sacred spaces of all religions. But Christianity triumphant showed itself hardly less accommodating. In the year after Constantine's decree legalizing Christianity, a decree of which more than 50 lines survives was published in Lyttos (IC I.xviii.188; Harrison 1993, 296–9) giving 'forced conversion' the status of treason. The types of witnesses and proofs that would be accepted by a court, however, made the law unenforceable, giving Christians a free hand. Although Anastasios outlawed condemnation *ad bestias* in AD 500, it continued to have legal status and protection in the *Codex Justinianus*, AD 534 (Eplett 2014, 529–30).

That same code also promulgated laws against circumcision, mandated death for performing circumcision, and also stipulated confiscation of property of converts (*proselytoi*) to Judaism (Collar 2013, 163). Originally, *proselytes* meant someone who went from a less strict to stricter observance (usually Pharisaic *halakah*) of Jewish traditions and not a Gentile converting to Judaism. So too, the majority of Jews visible in the historical record spoke Greek and had Greek names (Collar 2013, 157, 163). It is only after the destruction of the Second Temple by Titus in AD 70 that there is a sharp rise in Jewish names, which Collar sees as a "uniform response to the rising tide of intolerant Christianity" (2013, 165). Further, Jews adopted strategies Christians once used to pass in a Roman world, such as observing their religion as *Theos Hypsistos*. A fragmentary inscription from Delos shows that Menippus, son of Artemidorus, from Herakleion made a donation (*IJO* 1, Ach 66; c. 250–175 BC). More than a century later, also at Delos, Serapion, son of Jason, from Knossos is honoured for making a gift (*IJO* 1, Ach 67; c. 150–140 BC).

The Jewish community on Crete is difficult to assess, even though it appears in *I Maccabees* (15:23) and is mentioned often by Josephus, who married a woman from western Crete. During the empire, Tertula of Chersonisos offered a prayer to *Theos Hypsistos* and decorated a stele with an eagle, symbol of Zeus. The late-1st/early 2nd century altar at Gortyn is dedicated to *Theos Hypsistos* (Lippolis, this volume) and was found in association with many terracotta lamps; its top could be removed for storage, similar to *bema* in a synagogue (*SEG* 54.854). A Simon (IC IV.290c) and an Iaphat (IC IV.211) from the same community were honoured as *proxenoi*. A synagogue is known at



Lendas on the south coast (Harrison 1993, 215), and an inscription identifies another one at Arkades (*IC* I.v.17). A Sophia of Gortyn is honoured as the leading female in the community at Kissamos (Collar 2013, 259). A fragment of a floor mosaic from a synagogue survives in Kassanoi (<http://www.etz-hayyim-hania.org/>).

Collar (2013, 160) suggests that a community needs at least 400 individuals to sustain a non-incestuous endogamy; she estimates a Jewish community on Crete of at least 3200 during the 3rd century AD. The numbers in and of themselves are not terribly illustrative. What one is drawn to instead is that the habit of intolerance that had taken hold during the worst of the persecutions, that is, during the 3rd century, had poisoned relations among religious communities on the island. As an island, such effects would intensify but also be near impossible to avoid.

## Conclusions

The last decades of the 2nd century inaugurated the first of the organized persecutions of Christians, which the Severans in the first quarter of the 3rd century neither increased nor curtailed. The middle of the 3rd century is known for the monetary crisis and for the short reigns of the soldier emperors. The end of the century is perhaps best known for the edict of prices by Diocletian, which indicates the size of the problem rather than promoted a successful cure. On the empire-wide level there was a massive crisis in the 3rd century, whose effects continued well into the next. For Crete, however, in agreement with Gallimore (this volume) and Niniou-Kindeli and Chatzidakis (this volume), although there are substantial problems that the Cretans could not avoid, it is perhaps time to re-assess significantly upwards the amount and kind of successful economic activities on the island. Within this short contribution, I have tried to argue that the 3rd century, in spite of its problems, was blessed with massive and solid civic infrastructure to preserve its physical well-being and a deep mythical history it could draw on for the good of its soul.

Kehoe (2014) has shown insight into how the central government of the middle empire used law to try to sustain agricultural growth. The vibrancy of small agrarian economies on Crete during the Roman Empire seems once again demonstrated by Chalikias' study of Chryssi Island off the coast from Hierapytna (Chalikias 2013). What I would add as a final observation to Bowman and Wilson, to Kehoe, and to Chalikias is that during the financial crisis of the 3rd century, when

the infrastructure – both governmental and in solid architecture – was sound, society could bounce back because it could apply all resources to the source of its problems. The picture is starkly different after the massive earthquake of AD 365: when major governmental and civic structures were destroyed and had to be rebuilt from the ground up, there was not the capital or the will to make it happen.

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# Pottery of the 4th–early 9th centuries AD on Crete: the current state of research and new directions

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*Dedicated to the memory of my grandmother, who taught me to care for  
small, everyday things*

## Introduction

Research on the pottery of Roman and Byzantine Crete has seen considerable progress in the decades since the studies by Ian Sanders, John Hayes and Paola Rendini in the 1980s (Sanders 1982; Hayes 1983, 97–169; Rendini 1988a, 221–8; 1988b, 229–51; 1988c, 253–61; 1988d, 263–77), particularly in comparison with studies of pottery from later periods in the island's history (Yangaki 2012a, 13–15). This is well illustrated by analytical studies in journals, the acts of congresses, collective volumes, and monographs published over the past decade (Yangaki 2012b, 17–28) and more recently by a conference held in 2009 in Milan entitled *La ceramica di Gortina (Creta): stato dell'arte e prospettive di ricerca*, followed by the subsequent publication of its proceedings (Bejor and Panero 2009), or by a two-day workshop organized by the University of Thessaloniki and the INSTAP Study Center for East Crete at Pachia Ammos, in September 2013. The conference in Milan, in particular, was dedicated to the pottery from the systematic excavations at Gortyn, which, as will be shown below, constitutes a fundamental resource for researchers working on pottery dating from these periods on Crete. It should be noted that the increasing interest in the study of such pottery coincides with a rising concern with various aspects of the material culture, with a particular focus on the study of the 'ceramic culture' expressed by the organization of regular international conferences dedicated to 'Late Roman Fine, Coarse and Cooking wares, and Amphorae in the Mediterranean,' or LRFW1 and LRCW1–4, respectively (Gurt i Esparraguera *et al.* 2005; Bonifay and Trégliat 2007; Menchelli *et al.* 2010; Cau *et al.* 2011; Poulou-Papadimitriou *et al.* 2014), or by the conference on 'Pottery of Late Antiquity from Greek Territory (3rd–7th century AD)' (Κεραμική της Ύστερης



Αρχαιότητας από τον ελληνικό χώρο (3ος-7ος αι. μ.Χ.)) in Thessaloniki in 2006 (Papanikola-Bakirtzi and Kousoulakou 2010).

This paper reviews the evidence of pottery from Crete dating from the 4th to the 8th–9th centuries AD and assesses its present state of research some 30 years after the publication of the aforementioned pioneering works. Its aim is to attempt to present a concise presentation of current knowledge about the pottery used on the island during the period.

It should be noted that a standardized chronological scheme for the history of the island during the above period has not been adopted by researchers, and instead they have in many cases followed a varied periodization and/or terminology (e.g., Sweetman 2004a, 317, 319; 2004b, 481; Gallimore 2011, 6–7, 32–5, 36–41). From the end of the 3rd century AD, Crete constituted a province within the Diocese of Moesia until Constantine I made the island a senatorial province within the Diocese of Macedonia in the Prefecture of Illyricum during the 4th century. Later in the same century, Crete became politically and administratively attached to the jurisdiction of Constantinople following the partition of this Prefecture. The first Byzantine period ended with the Arab conquest of the island in the third decade of the 9th century (Sanders 1982, 6–7; Tsougarakis 1988, 19–20, 198; 1998, 339, 343; Tsougarakis and Angelomatis-Tsougarakis 2004, 362, 364). The ceramic material published so far from the 4th century indicates that it constitutes a period of transition during which old forms and types, common during the previous century, co-exist alongside new types that would become more common in the first Byzantine period. Similarly, the period from the mid-7th through to the 8th–early 9th centuries, which was considered Byzantium’s ‘Dark Ages’ until recently (e.g., Tsougarakis 1988, 342), can now be seen as another transitional era far more illuminant than thought previously, especially on Crete. Substantial pottery contexts dating from the early 9th century are yet to be published analytically, with the exception of evidence from Pseira (Poulou-Papadimitriou 1995, 1119–31; Poulou-Papadimitriou and Nodarou 2007, 755–66), although recent research suggests that additional, analytical information is to be awaited from other Cretan sites, like Priniatikos Pyrgos (Poulou-Papadimitriou 2011, 384–5, 387; Hayden and Tsipopoulou 2012, 507–84; Klontza-Jaklova 2014, 799–803). Thus, given the present state of the evidence, the latest pottery incorporated into this study will be that of the 8th century, with remarks on pottery of the early 9th century AD.

## The current state of research

With its relatively large geographical size in relation to other islands of the Aegean and with its variety of countryside and microclimate, the island of Crete has been successfully compared to a continent (Tsigonaki 2007, 263). Given these characteristics, it must be stressed from the start that the research conducted thus far on pottery of the Roman and the first Byzantine period of the island is characterized by four major factors that impede a global, synthetic view, even though the information on this pottery is plentiful as a whole and encompasses every basic category of pottery – tablewares, plain wares for domestic or rural uses, cooking wares, amphorae, and lamps.

The first factor concerns the provenience of the available data, which come, at present, from a restricted number of sites (Fig. 14.1). Specifically, while rescue excavations across the island are quite numerous, related publications are limited to preliminary reports that do not present analytical data on the pottery for the latter periods (Yangaki 2005, 32–3; Gallimore 2011, 55–6). Furthermore, while the island of Crete has been intensively surveyed in recent decades (see Gkiasta 2008, 11–149; Gallimore 2011, 61, n. 83; 61–7) and while landscape archaeology is a tool in the study of regional histories, these surveys have tended to focus on earlier periods or, when they document sites of the Roman and the first Byzantine periods, to provide only a partial view of the associated pottery (e.g., Blackman and Branigan 1975, 31–2; Watrous 1982, 70, 82, nos 78–80; 83, nos 81–3; 84, nos 84–5; Branigan 1998, 45, fig. 12, K2-36, K65-31, K7-36, L38-32, L38-40). Even with such partial views, differences or variations in the survey methods and goals make it difficult to compare the evidence (Raab 2001, 22–44; Gkiasta 2008, 148). More analytical information is provided by survey investigations which target specific goals, an illustrative example being those organized by the French Archaeological School in collaboration with the local ephorates (Empereur and Marangou 1990, 466; Empereur *et al.* 1991, 481–523; 1992, 633–48), which focused on amphora workshops and concluded with the analytical publication of A. Marangou-Lerat (1995). At present, however, these constitute isolated cases. Furthermore, while research such as the projects conducted at Knossos may offer information on pottery from the 4th–8th centuries AD, this data is restricted to specific sectors of the valley of the city of Knossos (Hood and Smyth 1981, 22–6; Sackett 1992a; Hayes 2001, 431–54; Forster 2004, 489–91; Sweetman 2004b, 481–7; Forster 2009); given

the history of this site, these archaeological investigations have focused mainly on the prehistoric period and research has mainly consisted of rescue excavations. G. Forster, acknowledging this situation, attempts to offer a general overview of the pottery of the Roman and the first Byzantine periods from the site so far; his research encompasses both existing data and new groups of pottery (Forster 2009, 9–15, 226–36). The evidence recently published from Hierapytna (Gallimore 2011) offers a picture of the city's pottery based on material from rescue excavations in various locations. Roman pottery is more numerous at both these sites than material from later periods, with some 4th and 5th century evidence; ceramic information for the 6th and 7th centuries is much more restricted. Moreover, while publications on pottery from excavations like those in Aghia Galini (Vogt 1991–1993, 39–75) or at Vafes and Kefala Vrises (Fiolitaki 2011, 87–107; 2014, 469–76) offer interesting material, they constitute isolated deposits for the history of each site. Thus, given that substantial, analytically presented information so far derives from just two systematic excavations at specific sites, Gortyn (e.g., Di Vita 2001; 2004; Bejor and Panero 2009; Di Vita and Rizzo 2011) and Eleutherna (Vogt 2000, 39–199; Yangaki 2005; Baldwin Bowsky 2009a, 155–76; 2009b, 177–96) (Fig. 14.1), publications have inevitably been based mainly on these studies, even though additional important information could be provided by pottery from other sites, such as Kissamos (Gallimore 2011, 55–6) or Chersonisos (Sythiakakis and Vassilakis 2013, 54) (Fig. 14.1). Selective, additional information comes from other systematically excavated sites like Pseira (Poulou-Papadimitriou 1995, 1119–31; 2011, 387, 391–2, 394, 396, 404, 406; Poulou-Papadimitriou and Nodarou 2007, 755–66;) and Itanos (Xanthopoulou 2004, 1013–27; 2013, 43–4; Xanthopoulou *et al.* 2014, 811–7), but the pottery from these sites has yet to be published analytically. The pottery from other systematically excavated sites, like that of Priniatikos Pyrgos (Hayden and Tsipopoulou 2012, 507–84; Klontza-Jaklova 2014, 799–803), will further enrich the evidence.



Figure 14.1 Map of Crete showing main sites mentioned in the text. Map: M. Remoundos.

The above outline makes clear something observed at the beginning of this study: the very limited number of sites from which the material under evaluation derives. If this picture is compared to the information provided by Professor D. Tsougarakis (1991, 591–2), compiled from a combination of the Cretan cities in Hierocles' *Synecdemus* with other written sources, according to which 34 cities were active on the island during the 5th and the 6th centuries together with numerous other sites (Tsigonaki 2007, 264, fig. 1), it becomes obvious that very limited evidence has been explored overall and especially in regard to the ceramic material. Thus, the data available can and should be further expanded with future research and publications.

A second factor is that the extant evidence derives from sites with different geographical, morphological, and administrative characteristics. For instance, Gortyn was the capital of the island and its main administrative centre; Eleutherna was a city in the interior of the island; Itanos and Hierapytna were both important Cretan city-ports, while Pseira was also a stopping-off point for ships. In addition to these sites, evidence from survey investigations points, for example, to the existence of villages such as Lamnioni and of various farmstead sites like that at Katelionas in eastern Crete (Branigan 1998, 74–7). Moreover, there were several small sites, probably farmsteads, in existence in the Lasithi and Vrokastro regions at this time alongside larger settlements like that at Kardamoutsia in Lasithi (Watrous 1982, 24; Hayden *et al.* 1992, 332–3). At other sites that have published selective ceramic material, the limited nature of the investigations prevents definite conclusions to be drawn about the nature of the sites

which would contextualize the ceramic evidence. The differences between these sites are reflected in variations and differences in the categories and types of pottery encountered at them.

A third factor impeding a concise, global image of the pottery circulating on the island from the 4th until the 8th–early 9th centuries is methodological in nature and relates to the presentation of the material. The pottery published from most of the above-mentioned sites, sometimes shows an emphasis on the fine, red-slipped wares (e.g., Watrous 1982, 82–4), given that they are easier to identify and are considered as more accurate markers for dating a context. As a result, analytical data based on an in-depth study of each excavated unit or surveyed site and accompanied by a presentation of the related quantitative information is scarce; in fact, it is limited to the efforts at the cities of Gortyn (Di Vita 2001; 2004; Di Vita and Rizzo 2011) and Eleutherna (Vogt 2000, 39–199; Yangaki 2005). Even at these sites, however, the methods used to treat the material vary: in some cases they have been applied only to contexts from specific areas, while in other cases analytic quantitative data could not be obtained for some contexts (e.g., Yangaki 2005, 30–2) or is still awaited. This is the case with the recent excavations conducted at Gortyn by several research groups since 2002 in sectors (Bejor and Panero 2009; De Aloe 2009, 38–43; Fabrini and Perna 2009, 121–38; Panero 2009, 16–32; 2010, 907–14; Zanini 2009, 44–72; Di Vita and Rizzo 2011; Zanini and Costa 2011, 33–44; Lippolis *et al.* 2012, 246–64; Zanini *et al.* 2013, 10–1) other than the ‘Praetorium’ complex, the source of the analytical evidence that has come to light thus far (Di Vita 2001; 2004). Pottery from all these sectors is currently being studied (Bejor 2009, 10), and it is anticipated that a synthetic view of the material from the whole settlement, which explores the fluctuations and variations in types of pottery relevant to the nature of each context and from one period to the other, will enable researchers to obtain a synthetic perspective of this aspect of the city’s material culture. Computer software programs (Baldini and Baldassarri 2009, 73–86) and the possibilities of Web platforms (Zanini and Costa 2006, 241–64), already in use by various projects, offer further advantages for the more systematic management, archiving, and presentation of archaeological records, including pottery records.

A last obstacle impeding a better understanding of the circulation of pottery during the first Byzantine period on the island is our limited information for local wares. While Crete was home to an important

pottery production, particularly from the Roman period onwards, concise evidence about local manufacture during the Roman and the first Byzantine periods, that is the identification of pottery workshops, is scarce, aside from the rare cases where pottery workshops have been identified based on the recognition of installations or on the existence of wasters (Marangou-Lerat 1995). Thus, local production at a site is generally suggested by a large number of pots/sherds bearing the same morphological characteristics and sharing common fabrics (Pl. 28). In the case of pottery of the first Byzantine period on Crete, the detailed macroscopic observation of the fabrics from a particular site or research area is still in its infancy, in contrast with prehistoric evidence (Moody *et al.* 2003, 39–43, table 2). For example, fabric analysis series based on macroscopic examination are now available from the Sphakia area in western Crete (Moody *et al.* 2003, 76–7, 84–6, 89–90, 97–100, pl. B, d, f), the Ziros region in eastern Crete (Branigan 1998, 38–41, 43), from Gortyn (Martin 1997b, 293–5; Panero 2010, 909), Knossos (Forster 2009, 72–6), Eleutherna (Yangaki 2005, 36–7), Hierapytna (Gallimore 2011, 225–6, 233–4, 290–2, 308–11) and Pseira (Poulou-Papadimitriou and Nodarou 2007, 757–8), but only rarely is this data combined with illustrations of each fabric through close-up photos, which would better enable researchers to combine evidence from different sites (Pl. 28). In rare cases, macroscopic identification has been combined either with petrographic analysis, as in Sphakia (Moody *et al.* 2003, 54–8, 76–7, 84–6, 89–90, 97–100), at Pseira (Poulou-Papadimitriou and Nodarou 2007), and at Itanos (Xanthopoulou *et al.* 2014, 811–5), or with thin section petrography and/or chemical analysis, as at Eleutherna (Aloupi *et al.* 2000, 207–35; Yangaki 2005, 281–2; Yangaki *et al.* 2008, 313–25). This interdisciplinary research at the three last sites, which for the first time prioritized the identification of wares attributed to local production centres rather than vessels imported from elsewhere, has shown how our knowledge of regional resource exploitation and manufacturing trends may be expanded by means of similar techniques. It furthermore offers important information on the period of transition from the first Byzantine period into the period of Arab occupation on the island. Apart from these isolated cases, most hypotheses about local production are based, as previously said, on the occurrence of a large number of vessels bearing the same morphological characteristics and on a general description of ceramic fabrics. It has, in addition, long been acknowledged that other tablewares, cooking wares, vessels for various everyday uses, and

amphorae also play an important role in reconstructing patterns of distribution and exchange among various sites, alongside the undisputed role of the red-slipped, fine wares. In specific cases, in fact, their role is much more important, as, for example, in the case of amphorae (Whitbread 1995, 27; Moody *et al.* 2003, 40; Karagiorgou 2009, 37–58; Yangaki 2014, 89–103). These last two groups of pottery constitute the majority of the ceramic material collected through excavations and surveys, and their precise archaeological identification in combination with the information from the use of analytical techniques shed a clear light on the cultural and economic history of each site. Thus, the research program focusing on the petrographic analysis of pottery from the first Byzantine period from multiple sites on the island, which aims to identify specific centres of production on the island and to recognize their products, offers enhanced evidence for local productions across Crete (Poulou-Papadimitriou and Nodarou 2014, 873–83). As J. Moody *et al.* have pointed out: “A further, and fundamental, goal of publication is to facilitate the comparison of fabrics and wares from different projects, so that archaeologists can be certain whether or not their fabric A is the same as someone else’s fabric B” (Moody *et al.* 2003, 103). This is extremely relevant to research conducted on pottery from the Roman and the first Byzantine periods on Crete. In order for further inter-regional comparisons to be made, analytical fabric-type series for each surveyed or excavated site need to be made available to colleagues working in this field.

### **The current state of evidence and new directions**

It is evident that the material published from Cretan sites either represents mainly a particular category of pottery, or presents multiple categories of pottery but from geographically or chronologically limited contexts. Only the published material from Gortyn and Eleutherna stands apart, constituting the main pieces of evidence for researchers and providing the most analytical sample available to date and the one which includes pottery from the entire period (from the 4th until the 8th centuries). Because this pottery is derived from systematic excavations, it allows observations to be made on the differences between one period and another and comparisons to be made of the characteristics of the two sites. In reviewing the related evidence, additional reference will be made in the form of complementary information to pottery from Vafes, Aghia Galini, Panormo, Chersonisos, Amnisos, Pseira, Hierapytna, Itanos,

and other minor sites, with a view to offering as complete a picture as possible, given the limitations described above. It thus becomes clear that most of the published evidence comes from sites in central and western Crete, with less information from sites in the eastern part of the island.

### ***Tablewares, plain wares for domestic or rural uses, cooking wares***

#### ***Red-slipped pottery***

There are three common categories of fine, red-slipped tablewares found on the island: African Red Slip, Late Roman C and Late Roman D wares (Hayes 1972; 1980; Bonifay 2004, 155–210). To these one can add Egyptian Red Slip Ware. Other fine wares occur very rarely, including Macedonia ‘T.S. Grise,’ found at Gortyn and Itanos (Rizzo 2001a, 40; Xanthopoulou 2004, 1016; Panero 2010, 908).

Not much has changed since the first effort to present a more synthetic image of the occurrence on the island of these three main categories of red-slipped wares by A. Dello Preite in the early 1980s (Dello Preite 1984, 177–98). Recent research has either added more information on sites included in her study or offered evidence on additional sites and areas, such as Knossos (Hayes 2001, 433–4; Forster 2009, 91–112), Gortyn (Rizzo 2001b, 40–54; 2001c, 55–65; 2001d, 65–6; 2004a, 184–98; 2004b, 326–36; 2011a, 83–9; Fabrini and Perna 2009, 127, 128, 130; Lippolis *et al.* 2009, 107–8; Panero 2009, 25–6; 2010, 908), Eleutherna (Vogt 2000, 73–5, 95; Yangaki 2005, 103–19), Hierapytna (Gallimore 2011, 267–89), Aghia Galini (Vogt 1991–1993, 43–7), Vafes Apokoronou (Fiolitaki 2011, 90; 2014, 469–70), Kefala Vrises (Fiolitaki 2014, 469–70), and sites from the surveys made in the areas of Akrotiri (Kydonia) (Raab 2001, 88, 93–5, 102, 105–6, 114, 118, 121, 124, 130), Mesara (Watrous and Hadzi-Vallianou 2004b, 525–40), Lasithi (Watrous 1982, 70, 80–4), Pseira (Hope Simpson *et al.* 2005, 13, 18, 48, 89), Kavousi (Haggis 2005a, 58; 2005b, 93, 104, 118, 124, 142), Vrokastro (Harrison and Hayden 2005, 57–8), Gournia (Hayes and Kossyva 2012, 171–3), Priniatikos Pyrgos (Klontza-Jaklova 2014, 800), Itanos (Xanthopoulou 2004, 1016), Ziros (Branigan 1998, 46), Moni Odigitria (Francis 2010, 29), Sphakia (Nixon *et al.* 2000, 30/21.1:UncatG11, 30/21.4:UncatG24, 30/21.5:UncatG11, 30/21.1:UncatG10, 30/20.4:UncatG06, 29/22.1:UncatG06, 29/21.1:UncatG08). Additional evidence comes from the island of Gavdos (Kossyva *et al.* 2004, 405) (Fig. 14.1).

Interpreting pottery evidence from surveys is not easy, since there



is usually no particular quantitative data and one also has to take into consideration the possibility that the samples of pottery collected do not always offer an objective representation of the pottery encountered during field research (e.g., Watrous 1982, 70, 82–4; also Gallimore 2011, 65–7); the use of different methodologies and variations in the scope of each survey does not always result in intensive artefact collection. This becomes particularly obvious when one turns to the study of fine pottery from Crete, since a quick glimpse at the related data makes it clear that in some surveys – mostly pioneering works for survey research on Crete dating from the middle and the last quarter of the 20th century and with an emphasis on periods prior to the first Byzantine period – the references to fine wares are far more numerous than those to cooking and coarse wares, which are considered less diagnostic. This, of course, is also due to the fact that red-slipped wares are much more easily observable in the field than undecorated, coarse wares (Harrison 2000, 545–6). These observations have much in common with D. Pettegrew's remarks on the apparent increase in information on pottery of the 3rd–7th centuries AD, compared to that of early Roman times (Pettegrew 2007, 743–4).

From the first decades of the 4th century, African Red Slip Ware (abbreviated as ARS) (Hayes 1972, 13–299), with examples of the production C, arrived on the island in more important numbers than during the 3rd century AD. In fact, it gradually replaced Çandarlı Ware, which had been common on the island in previous centuries, and became, with the numerous examples of production D, one of the two more diffused categories of red-slipped ware pottery found on the island, the other being Late Roman C Ware. Of the various forms encountered on the island, forms 45, 50, 59B, 61A, 67, 73, 87, 90, 91, 99, 104, and 105 were the most common, among which forms 50, 67, 99, and 105 were quite numerous (Dello Preite 1984, 179–82; Yangaki 2005, 106, 108, 112–3; Forster 2009, 98; Francis 2010, 29) (Pl. 29). The 6th century showed more variability regarding the multiplicity of African Red Slip forms, since evidence for the 5th century was quite restricted and only a small, repetitive, number of forms occurred during the 7th century (Dello Preite 1984, 185, 189, 196; Shaw and Shaw 1995, 338, 354; Rizzo 2001b, 40–54; 2004a, 184–98; 2004b, 326–36; 2011a, 83–9; Yangaki 2005, 286–7; Forster 2009, 97–105; Lippolis *et al.* 2009, 107–8; Hayes and Kossyva 2012, 172–3). In fact, during the 7th century, form 105 occurred quite often at Cretan sites, implying the continuation of contacts with North Africa, which seem

to have continued into the second half of the 7th century and even later at some sites, where form 109 is attested (Dello Preite 1984, 189, 195; Rizzo 2001b, 46; 2011a, 85; Yangaki 2005, 287; Forster 2009, 105; Fabrini and Perna 2009, 130). It has long been suggested that historical factors, namely the Vandal conquest of Africa, might explain the drop in African imports to the island during the 5th century, especially compared to the previous century (Dello Preite 1984, 197; Romeo and Portale 2004, 968–9). The data became more numerous from the second half of the 6th century on and also during the first half of the 7th century, showing that there had been a revitalization in contacts between Crete and North Africa during this period (Dello Preite 1984, 197–8; Yangaki 2005, 287).

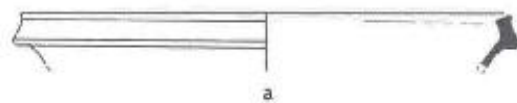
The most common red-slipped ware encountered on Crete was Late Roman C (abbreviated as LRC), which is also known as Phocaean Red Slip Ware (Hayes 1972, 323–70). The earliest appearance of this category seems to be the late 4th or very early 5th century, as shown by examples from Gortyn and Eleutherna (Dello Preite 1984, 179; Forster 2009, 107–9; Yangaki 2005, 117). The entire range of the forms of this production has thus far only been encountered at Gortyn (Rizzo 2001c, 55; Fabrini and Perna 2009, 127–8), while at most Cretan sites forms 3 and 10 with their sub-types were more common (Fig. 14.2, a–d). Form 3 revealed considerable diffusion at numerous sites on the island, in particular its sub-types 3E and 3F (Watrous 1982, 70; Rizzo 2001c, 55; 2011a, 86–7; Xanthopoulou 2004, 1016; Yangaki 2005, 116, n. 360; Harrison and Hayden 2005, 57–8; Fabrini and Perna 2009, 127–8; Forster 2009, 108–9; Lippolis *et al.* 2009, 108; Panero 2009, 25–6; 2010, 908; Gallimore 2011, 280–1; Hayes and Kossyva 2012, 171–2; Fiolitaki 2014, 469–70). Together with form 10 (Fig. 14.2, e–f), these shapes seem to have become prevalent on the island in comparison with examples of other fine red-slipped wares, particularly during the 6th and the first half of the 7th centuries (Harrison and Hayden 2005, 57–8; Haggis 2005a, 58; Yangaki 2005, 286–7; Fabrini and Perna 2009, 128; Panero 2009, 25–6; Fiolitaki 2014, 469–70). This is based on quantitative data from Gortyn (Rizzo 2001c, 55; 2004a, 190–8; 2004b, 327–31; 2011a, 86–7; Dello Preite 2004, 427–32; Fabrini and Perna 2009, 127–8; Panero 2009, 25–6;) and Eleutherna (Yangaki 2005, 116–8, 286–8) and is further enhanced by the frequency with which these forms occur at various surveyed or excavated areas in comparison with forms of ARS Ware. They have been found at Kissamos, Plakias, Sellia, Aghios Ioannis (Dello Preite 1984, 184–6), the Akrotiri peninsula (Raab 2001, 88, 93–5, 102, 105–

6, 114, 118, 121, 124, 130), Vafes (Fiolitaki 2011, 90), Aghia Galini (Vogt 1991–1993, 43–7), Knossos (Hayes 2001, 438), Matala, Lasaia (Blackman and Branigan 1975, 31–2; Shaw and Shaw 1995, 338, 365), Dia, various sites from the region of Sphakia (Sanders 1982, 165; Nixon *et al.* 2000, 8.36:UncatG11, 8.39:UncatG24, 8.40:UncatG11, 8.36:UncatG10, 8.35:UncatG06, 8.22:UncatG06, 8.19:UncatG08), Pseira (Hope Simpson *et al.* 2005, 13, 18, 48, 89), the plain of Phaistos (Watrous and Hadzi-Vallianou 2004b, 528, pl. E.21), Lasithi (Watrous 1982, 70, 80–4), the Ziros region (Branigan 1998, 46), the Vrokastro (Harrison and Hayden 2005, 57–8), Gournia (Hayes and Kossyva 2012, 172) and Kavousi areas (Haggis 1992, 240, no. 250; 2005a, 58; 2005b, 93, 104, 118, 124, 142), and the Asterousia region (Blackman and Branigan 1977, 44, figs 1, 18; Francis 2010, 29) (Fig. 14.1). This data confirms that the island of Crete adheres to the trend identified for the eastern Mediterranean, where LRC prevails during the same period (Hayes 1992, 5, 7, n. 5; Yangaki 2005, 287).

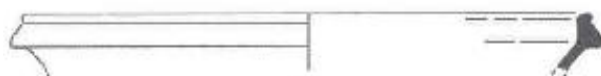
In some areas, like Eleutherna, Gortyn, Itanos, and Pseira, alongside numerous examples that reveal the characteristics of the main production of LRC, as presented by J. Hayes, occur some other examples whose variable slip and fabric quality (as in Gortyn and Itanos) could suggest a provenience from other production centres as yet unlocated (Rizzo 2001c, 65; Xanthopoulou 2004, 1016; Hope Simpson *et al.* 2005, 97, L7.2; 104, L18.2; Yangaki 2005, 124; Lippolis *et al.* 2009, 108).

Quite rare on the island is the occurrence of Late Roman D (Hayes 1972, 371–86), which has thus far been noted only at Gortyn, Knossos, the Gournia area, Hierapytna, Itanos, Agios Savvas, and Kissamos (Dello Preite 1984, 185, 189; 2004, 432; Rizzo 2001c, 65; 2004b, 334; Xanthopoulou 2004, 1016; Gallimore 2011, 287–8; Hayes and Kossyva 2012, 173; Portale 2014, 480). While Hayes's forms 1 and 2 show that at some sites LRD made its first appearance on the island during the 5th century, it became more frequent in its latest circulation, as demonstrated by the examples of Hayes form 9 found at Gortyn, Knossos, Kissamos, and Itanos (Dello Preite 1984, 185, 189; Hayes 2001, 443, 445, no. B 5; Xanthopoulou 2004, 1016). Our knowledge of LRD is becoming more and more complex. Recent studies have reworked or refined Hayes' typology (Meyza 2007; Reynolds 2011, 57–65) and chronology (Armstrong 2009, 158–70, 178). In particular, according to the revised chronology on Hayes' form 9 proposed by P. Armstrong (2009, 158–70, 178), this form,

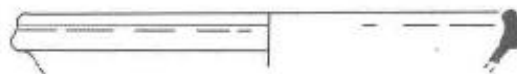
traditionally dated to the 7th century and circulating until the end of the century, continued to be distributed throughout the 8th century. In view of this opinion, the scrutinized publication of pottery assemblages from the above-mentioned Cretan sites – of which a deposit from Knossos has been published analytically (Hayes 2001, 443–54) – with an emphasis on the rigorous presentation of each archaeological context will contribute to a better understanding of the period of occupation in these areas, cross-checking and refining, comparatively, the evidence published to date (Hayes 2001, 443–54; Yangaki 2005, 43–100). Also, while it was believed that LRD (or Cypriot Red Slip Ware) was probably made in Cyprus (Hayes 1972, 371; Meyza 2007, 13; Armstrong 2009, 158–9), the number of tableware productions in southern Asia Minor which find morphological parallels has suggested to researchers that all the respective wares be linked under the same label (LRD) (Poblome and Firat 2011, 49–55). Moreover, the identification of numerous LRD production sites in Pamphylia and Pisidia in southwest Asia Minor has alerted researchers working in consumption areas such as Crete to the original provenience of the LRD examples (Jackson *et al.* 2012, 89–114). Consequently, areas in southwest Asia Minor are now considered as candidates for these imports, in addition to Cyprus.



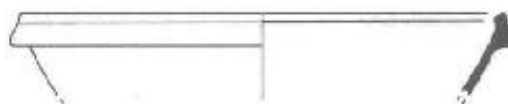
a



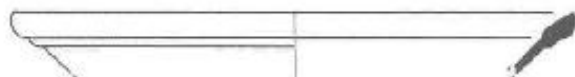
b



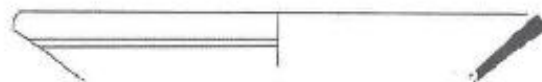
c



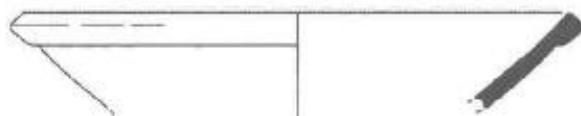
d



e



f



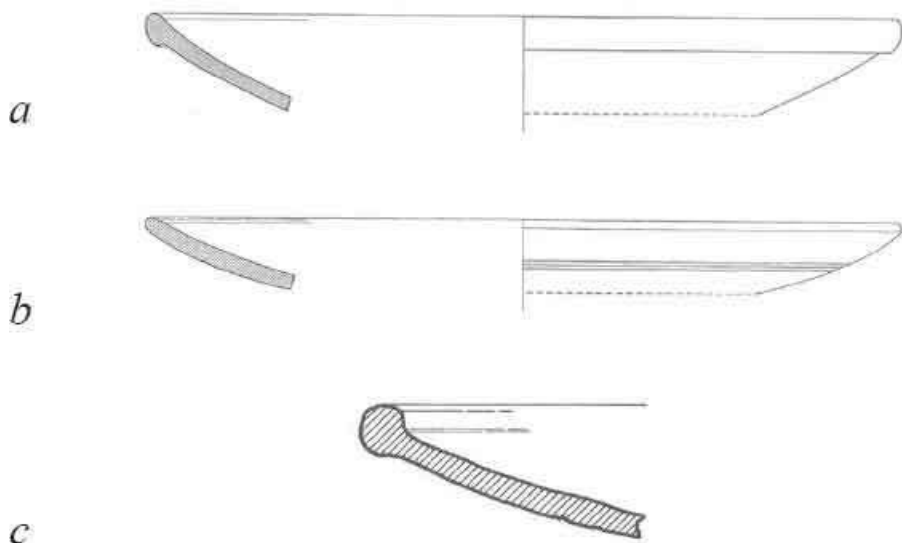
g

*Figure 14.2 Examples of LRC ware, form 3, from Eleutherna (a–d); examples of LRC ware, form 10, from Eleutherna (e–f); fragment of an imitation of LRC, form 10, from Eleutherna (g). From Yangaki 2005, fig. 11 (scale 1:4).*

Egyptian Red Slip Wares are rare on Crete (Hayes 1972, 387–401). A sole fragment published from Hierapytna from a context of the second half of the 4th century constitutes the earliest known occurrence (Gallimore 2011, 288–9). At Eleutherna, a single example has been dated to the second half of the 6th and the early 7th century (Vogt 2000, 64–5). To date, the only site where Egyptian Red Slip Wares seem to have had some diffusion is Gortyn, where a few fragments from contexts of the 6th, 7th, and the 8th centuries AD have been considered as examples of ERS A and C (Lippolis 2001a, 68; 2001b, 69–71; Fabrini and Perna 2009, 128–9). A single example was found during the survey in the Gournia area, but could constitute an imitation (Hayes and Kossyva 2012, 173–4). Perhaps the preferential occurrence of Egyptian Red Slip Ware in these late contexts can be connected to the continued import during this period of other products from Egypt, such as wine, as demonstrated by a quantity (although modest) of Egyptian amphorae still circulating at the site of Gortyn at this time (Portale and Romeo 2001, 338–44).

Along with the above-mentioned imported red-slipped wares on Crete, information is gradually accumulating about the existence of fine-quality ceramics whose form and surface treatment imitate ARS and LRC (Figs 14.2, g, 14.3) (Bonifay 2004, 459–61; Yangaki 2005, 119–25, 288–93; 2009 204–7). These are characterized either by examples which show a close relation to their prototypes in terms of form, have fine to medium fabrics, and display a fine reddish/maroon slip, or by examples that could be considered derivatives of their prototypes in that they follow general forms but are made of coarser fabrics, have thicker walls, and either no slip or a poor-quality slip. Imitations of the first category can constitute either imports or local products, while imitations of the second category, sometimes considered part of the plain wares repertoire given the absence of slip, are usually attributed to the local production of specific areas based on the macroscopic characteristics of their fabrics. This tendency to copy forms of imported red-slipped wares is noted in Crete from the early Roman period, as demonstrated by examples from Knossos (Forster 2001, 153; 2009, 114–5) and Gortyn (Veronese 2002, 898; Yangaki 2005, 290). In the first Byzantine period, it seems to have

become more intense from the mid-5th century onwards, and the imitations seem to have had a more prolonged life than their prototypes (Yangaki 2005, 288–90). Imitations of both categories have thus far been identified in Vafes (Fiolitaki 2011, 91), Eleutherna (Yangaki 2005, 119–25, 288–93), Gortyn (Albertocchi and Perna 2001, 418–35; Lippolis 2001b, 69–71; Veronese 2002, 898; Lippolis *et al.* 2009, 109–10), Knossos (Hayes 2001, 433–4; Forster 2009, 113), Hierapytna (Gallimore 2011, 283), and the Vrokastro (Harrison and Hayden 2005, 57–8, pl. 2.6) and Asterousia areas (Francis 2010, 29). Imitations of the second category, as shown by evidence from Gortyn and Eleutherna, were mainly the products of local workshops and were mainly restricted to the local market, as has been suggested in the case of other Red Slip Ware imitations in the eastern Mediterranean (Arthur 2007, 162). Their fabrics suggest that they were made in the same workshops as other plain wares. Of particular interest are examples of ‘Local/Regional RS Ware’ identified by J. Hayes at Knossos, which copies forms both of ARS and LRC (Hayes 2001, 433–4), since they bear a medium-quality slip and constitute somewhat finer versions in comparison with the imitations of the second category. The provenience of this ‘Local/Regional RS Ware’ is unknown, as is its possible distribution in other regions of Crete. Some fragments from Gortyn with particular characteristics could be related to this ware (Panero 2009, 26). However, its existence shows that a more specialized production of regional red-slip wares supplements the local market during the 6th and the 7th centuries and runs parallel with the above productions.



*Figure 14.3 Examples of possible imitations of ARS ware, from Gortyn. From Lippolis 2001b, pl. xix, d, b, by permission of the Scuola Archeologica Italiana di Atene (a, b) (scale 1:6). Plate imitation ARS ware, form 104C, from Gortyn. From Albertocchi and Perna 2001, pl. lxxxiv, A III 3.1/1, by permission of the Scuola Archeologica Italiana di Atene (c).*

Imitations mostly copied the more commonly attested imported forms, like ARS forms 99, 104 and 105, and LRC forms 3 and 10 (Figs 14.2, g, 14.3). Even if their numbers are quite low compared to red-slipped wares in general, they witness their greatest diffusion from the middle of the 6th century and even during the 7th century; it is characteristic that they are more common than imported fine wares in a 7th century deposit from Knossos (Hayes 2001, 443, 445). Variations occur in the more common forms at each site. Imitations of fine pottery are also noted in other regions of the Mediterranean (Bonora *et al.* 1988, 345–6; Milanese 1991, 368–71; Rubinich 1991, 633; Fontana 1996, 83, 87, 95; Poulou-Papadimitriou 2001, 235; Ladstätter and Sauer 2002, 323–5; Yangaki 2005, 291–2; Arthur 2007, 162–3). Crete thus accords well with this phenomenon in being alert to the trends of the day. If the ‘local’ provenience of ‘Local/Regional RS Ware’ can be verified, then both categories of imported red-slipped wares will have been reproduced on the island contemporaneously along with lower-quality, local imitations. Given that they could have been more easily acquired than their finer, imported prototypes, these products would have offered a supplementary cover to the need for finer vessels with similar characteristics.

Thus, it emerges that red-slipped wares are generally better represented than other categories of ceramic material from surveys, since they are far more easily recognized. Other categories, such as amphorae, are also quite prominent in publications, but in many cases their attribution to a specific type is not certain. Material from excavated sites, however, provides more detailed evidence and a far greater variety of forms of a particular fine red-slipped ware production, thus leading to better knowledge of the chronological range of this ware at a given place. In particular, the forms of ARS and LRC wares found at Gortyn and, to a lesser degree, at Knossos, Hierapytna, and Eleutherna, are much more varied than those from surveyed areas, where there is a marked tendency towards an over-representation of later forms, such as ARS forms 99 and 105, or LRC forms 3 and 10, with sub-types. This could be explained by the



characteristics of survey research in Crete, as outlined above, by the nature of the surveyed sites, or by the nature of the systematically excavated sites, all of which were important settlements, each with its individual characteristics and some with a much stronger rural aspect (i.e. Eleutherna) than others. This image finds a distant but useful parallel in the remarks on red-slipped wares from the Segermes region in northern Tunisia, where J. Lund has noted that the excavated red-slipped pottery provides more information on the earlier material and total chronological range at each site than sherds collected from the surface (Lund 1995, 454–7). Nevertheless, data from surveys in areas like Kavousi (Haggis 2005a, 58; 2005b, 118, no. 37.4), Vrokastro (Harrison and Hayden 2005, 75–6), Asterousia (Francis 2010, 29–30), Lasithi (Watrous 1982, 82–3) and Akrotiri (Raab 2001, 93, 95, 97, 106) show that a variety of forms characterizes some specific sites. This, together with the abundance of specific forms of fine, red-slipped wares – among which LRC 3 and 10 prevail, which seem to be found all over Crete, both at inland and coastal sites, and with a high concentration on the neighboring island of Gavdos, as well (Kossyva *et al.* 2004, 405) – implies the wide penetration of fine pottery to the population and elicits some thoughts on the users of these vessels and their social position. It has long been suggested that tablewares with a fine slip and elegant decoration were more costly than other categories of pottery (Peña 2007, 29–31, 58). In fact, for the Roman period, the use and important diffusion of terra sigillata as an expression of contemporary material culture has been understood to reflect its users' new Roman identities and has thus taken its place in the long debated 'Romanization' process, that is, the complex ways in which Roman institutions and culture influenced and were absorbed by local Mediterranean populations (Hingley 2005, 100–2; Wallace-Hadrill 2008, 436–40; Baldwin Bowsky, this volume). Various aspects of this process have been explored in regard to Crete with the aim of assessing the possible impact of Roman influence on the island (Harrison 2000, 545–52; Watrous and Hadzi-Vallianou 2004a, 357–8; Sweetman 2006, 421–31; Gallimore 2011, 13–6, 23–4). The role of fine pottery in the 'Romanization' process was used quite recently to stimulate discussion among researchers about the role of LRD and other fine, red-slipped wares of the 4th through the 7th centuries AD as markers of different choices, and thus as manifestations of socio-cultural differences (Poblome and Firat 2011, 54). Nevertheless, future research might seek to explain this extremely abundant diffusion of fine, red-slipped pottery and its wide penetration into the population

both in terms of consumer tastes and at a cost lower than was once believed rather than focusing on the notion of ‘Romanization’ – especially, in the case of Crete, because different historical conditions arise during the period under study here. G. Harrison has suggested, with respect to the evidence from the Vrokastro survey (2000, 548–9), that imported tablewares must have been less expensive than was previously believed. Further research is needed in order to interpret more clearly the variations in consumer preferences over time in the search for the social and cultural conditions which might have generated different attitudes.

### *Painted and/or glazed pottery*

Two distinct categories of painted pottery have so far been identified on the island. These are mainly vessels of medium and small size and they occur in contexts dating from the end of the 6th century and mostly into the 7th and 8th centuries AD. The first category is known as ‘ceramica sovradipinta’ (Di Vita 1996, 47–53; Vitale 2001, 86–113; 2008; Rizzotto 2009, 32–7; Rizzo 2011b, 95–103) and is characterized by a brownish-reddish slip used to create various patterns, mostly geometrical and vegetal and occasionally stylized figures, on top of a surface covered with a light-brownish, fine slip (Pl. 30, a). The existence of numerous examples of this category in Gortyn, together with the excavation of a kiln destined for their firing (Di Vita 1996, 47–53; Vitale 2001, 86–113; 2008, 21), has led to their attribution to a local production with examples of similar characteristics. Based on the nature of their fabric, form, and decoration, objects attributed to this production have been published from Pseira (Poulou-Papadimitriou 1995, 1122), Herakleion (Poulou-Papadimitriou 2001, 236, fig. 5, a–b; 2008, 153–4), Apodoulou (Vitale 2001, 86, n. 5), Eleutherna (Yangaki 2005, 127), and Gavdos (Kossyva *et al.* 2004, 406, fig. 11; Yangaki 2005, 127, n. 450).

The second category of painted pottery is characterized by the use of white slip, usually in the form of thick bands applied directly to the surface of clay objects, or as a homogeneous layer covering the whole exterior surface (Fig. 14.4, a–b) (Vogt 2000, 69, fig. 17,4; Poulou-Papadimitriou 2004, 209–26; Yangaki 2005, 127–30). This pottery has been found at Eleutherna in a quantity that varies from 3% to 10% of total pottery in the respective contexts; as shown by an analytical study of contexts from Sectors I and II of the site, it dates between the 7th and the very early 8th century (Yangaki 2005, 89, 97–9, 129) and, given the morphological features of the vessels and above all their

fabric, has been attributed to a local production (Yangaki 2005, 128–9). Part of a flagon bearing white slip on its surface found in Aghia Galini in a complex where coins of Constans II offer a *terminus post quem* (for details: Yangaki 2005, 130, n. 471) shows that Eleutherna is not the only site where vessels having white, rather than brownish-reddish, slip were in use.

Both these categories of painted pottery have in common a preference for closed forms – mainly small to medium sized jugs, mugs, and flagons with various morphological variations – and for rather stylized motifs. Open forms are less common and are usually bowls or plates. Most of the forms find parallels with those of plain pottery from the same sites. These painted wares do not constitute isolated cases in the Mediterranean, but rather, as researchers have pointed out (Vitale 2001, 97–101; Yangaki 2005, 126–7, 130), are part of a general trend for painted wares already documented in central Greece, Italy, North Africa, and the Near East (Vitale 2001, 97–100; 2008, 183–6; Yangaki 2005, 126–7). In some of these areas, red-painted wares, mostly with geometric or abstract designs, appear as early as the 4th century (Greece and Italy), while they witness their largest diffusion during the 6th and 7th centuries. Cretan products, however, have their own characteristics, not only in the prevalence of specific forms, but also in their decorative themes. In the case of the production of Eleutherna, white rather than brownish slip was used. If it is considered that white slip was used as a base for polychrome, painted designs at Kellia (Egypt) (Egloff 1977, 48, pls 1–3, pl. 25), or that at Thasos (Abadie-Reynal and Sodini 1992, fig. 20, CC115, pl. iv.e), bands of white slip decorate a pot, then the use of light-coloured slip on the Cretan vessels does not constitute an isolated case. In addition, given the chronological framework attributed to these wares, it can be noted that their production started somewhat later than on mainland Greece and lasted longer. The continuation of the production of ‘ceramica sovradipinta’ during the 8th century has analogies with other sites from Italy (Ricci 1998, 377), Albania (Hoti 2003, 237–9) and Egypt (Egloff 1977, 48–51). Thus far, ‘ceramica sovradipinta’ seems to have had an inter-regional diffusion (see above and Vitale 2001, 101), while the white-painted pottery from Eleutherna seems to have responded solely to local needs.

The appearance of white-painted pottery at Eleutherna is tightly connected with the glazed pottery from the site (Fig. 14.4, c). In particular, numerous vessels from graves (Poulou-Papadimitriou 2001,

209–26; 2004, 209–26; Yangaki 2004a, 139–42) and one example from an excavated unit (Yangaki 2005, 132) bear traces of glaze, mostly transparent to yellow but also brownish, in the rare cases where this has been more densely preserved (Poulou-Papadimitriou 2001, 209–26; Yangaki 2005, 131–3, 295). In the majority of cases, this glaze was applied to the surface of pots decorated with white slip, but in rare cases it was applied directly to the bare surface (Yangaki 2004b, 299–300). Given the date ascribed to the graves that held the glazed pots (Poulou-Papadimitriou 2001, 239–40; 2004, 207–26; 2005, 687–704; Yangaki 2004a, 142–3) and to the white-painted pottery (see above), it has been suggested that the production of glaze started at Eleutherna around the middle of the century and continued throughout its course (Poulou-Papadimitriou 2004, 214–5; 2011, 390; Yangaki 2005, 295). Since its production is connected with the painted pottery, which has only rarely been found in contexts of the very early 8th century, it has also been suggested that this glazed pottery production did not last very long (Yangaki 2005, 295). It is clear, however, that a Cretan site must be added to sites like Constantinople (Hayes 1992, 13), Samos (Gerousi 1992–1993, fig. 7), Thasos (Blondé *et al.* 2003, 773–4; Petridis 2013, 16, n. 2; 187, fig. 3), Amathus (Touma 2001, 270–1), Crypta Balbi in Rome (Paroli 1992, 352), and the Yassi Ada I shipwreck (Bass 1982, 165–6), where glazed pottery has also been found dating from the 7th century.



*Figure 14.4 Fragments of white painted pottery from Eleutherna, Sector I. Photo by author, from Yangaki 2005, 130, pl. xxiv, 6–8 (a, b). Mug with traces of white slip and glaze, from a grave at Eleutherna, Sector I. Photo by author, from Yangaki 2005, 86, no. 467, pl. xx, 5 (c).*

Since the rare occurrence of glaze on pottery found in some parts of the Byzantine Empire from the 4th century onwards (Trivizadaki 2008, 30–5; Politis 2010, 157–8, fig. 5), the above data shows that more concrete evidence on this matter is available only during the course of the 7th century. It furthermore emphasizes the technical skills of these regional potters (Poulou-Papadimitriou 2004, 214), since, in the case of Eleutherna, they were not only capable of producing the – albeit poor quality – glaze, but they also combined it with painted decoration. Additional information on glazed pottery

products attributed to local production comes from Pseira, since a chafing-dish from this site, dated to the late 8th to early 9th century, is suggested to have been made locally in the area of Kalo Chorio (Poulou-Papadimitriou 1995, 1121–2; 2011, 391–2, fig. 8).

Imported glazed pottery also occurred on the island from the end of the 7th century onwards, forming part of the large category of ‘Glazed White Wares;’ this ware has been attributed to the area of Constantinople (Hayes 1992, 12–34). Examples comprise fragments recognized as early variants of ‘Glazed White Wares’ from sites at Kalorouma and Kalathas Bay on the Akrotiri peninsula (Raab 2001, 101, no. 113; 104, no. 138), a fragment published from Aghia Galini (Vogt 1991–1993, 68) attributed to ‘Glazed White Ware I’ (GWWI) (Poulou-Papadimitriou 2011, 394–5), few fragments of ‘Glazed White Wares’ from Herakleion (Poulou-Papadimitriou 2011, 394, n. 28) and Gortyn (Di Vita 1988–1989, 351–5; Belli-Pasqua and La Torre 1994–1995, 198, fig. 27; Rendini 2004f, 419, no. 93; Zanini 2011–2012) (Pl. 30b), and fragments of ‘Glazed White Ware I’ (late 7th to early 8th century) from Pseira (Poulou-Papadimitriou 1995, 1121–2; 2001, 238–9; 2011, 394), while early examples of ‘Glazed White Wares’ are mentioned from Itanos as well, with their detailed publication anticipated (Poulou-Papadimitriou 2011, 395; Xanthopoulou 2013, 43–4). These examples further enhance the evidence for the island’s contacts with other areas in the eastern Mediterranean during the late 7th and the 8th centuries. Next to these, Cretan sites like Eleutherna provide information on the local production of glazed pottery. In this last case, in particular, the glaze was applied to enhance the painted decoration of the vessels rather to make the vessels impermeable (Poulou-Papadimitriou 2004, 213–5; Yangaki 2005, 133, n. 488). This decorative use of glaze, in contrast with its use for practical, utilitarian reasons, has much in common with glazed vessels found at Philippoi and dated to the middle of the 5th and the 6th centuries AD (Trivizadaki 2008, 22, 30, 37).

These three categories of pottery (Pl. 30, a, Fig. 14.4), two of them tightly interconnected, indicate in the most eloquent way not only that Cretan pottery production follows trends noted in numerous sites in the eastern Mediterranean, but also that these new productions, which require specific technological skills, occurred during a period of change on the island, the latter caused by catastrophic earthquakes, the Arab expansion, or other factors (Tsougarakis and Angelomatis-Tsougarakis 2004, 362). The ongoing production of ‘ceramica

sovradipinta,’ as indicated by the reconstruction of the kiln in Gortyn after the destruction attributed to the earthquake of AD 670, represents the Cretans’ ability to adjust to various circumstances without abandoning quality production that must have offered some profit, judging by the variety of forms encountered at Gortyn and their diffusion, although limited, in other regions of the island. Broader-ranging information on the inter-regional diffusion of this pottery, as well as on the possible distribution of the painted pottery from Eleutherna, may in the future offer insights about possible trade contacts between sites on the island even during this troubled period. In addition, one should not underestimate the possibility that more than two centres of painted pottery production could have existed on Crete.

### *Plain wares for domestic or rural uses*

Vessels used for the preparation and the serving or storage of liquid, semi-liquid, or solid food or other substances are quite numerous on Crete: bowls, plates, cups, goblets, mugs, and jugs, pitchers, basins, tubs (Fig. 14.5, a–b), baskets and beehives (Pls 31–32). Most of the published data for this material, however, comes from Gortyn (Martin 1997b, 291–345; Albertocchi and Perna 2001, 411–536; Fabrini and Perna 2009, 132–3; Albertocchi 2010, 923–6; 2011a, 183–213; Perna 2010, 915–8; Bonetto *et al.* 2010, 900), Knossos (Hayes 1983, 97–159; 2001, 436, 438, 441–2, 445, 447; Forster 2009, 151–2), and Eleutherna (Vogt 2000, 66–75; Yangaki 2005, 126–65, 296–302), while information from other sites tends to focus on other categories of pottery thought to constitute better chronological ‘markers’ for each site or on well-diffused productions; our image of pottery related to domestic or rural activities is thus mainly derived from these three sites.

Several general remarks can be made about this pottery from Gortyn, Eleutherna, and Knossos. First, the majority of the aforementioned categories of wares are attributed to the local production of each site. Imported types are quite rare (Vogt 2000, 66; Albertocchi and Perna 2001, 414–5). At Gortyn, researchers have attributed one ceramic fabric to local production, but there are other fabrics for which, given their macroscopic characteristics, a possible local production can also be suggested (Albertocchi and Perna 2001, 414–5; Bonetto *et al.* 2010, 899–900). At Eleutherna, the attribution of certain fabrics of wares to local production has been reinforced by the results of chemical analysis (Yangaki 2005, 281–2; Yangaki *et al.*

2008, 313–25). The identification of the majority of wares to local production, with each category showing a variety of forms over a long period of time, implies that the production centres were active somewhere in the vicinity, offering ceramics in response to the needs of the inhabitants, and that there were no particular fluctuations in these productions over these five centuries. In fact, as a comparison of the pottery from these three sites reveals (Yangaki 2005, 296–302), this active production is either characterized (in each category of vessel) by a persistence of some particular forms over a long period of time at the same time that new forms emerged or by the appearance over the course of time of completely new shapes that supersede earlier ones. For example, a characteristic of the first case is the persistence at Eleutherna of ‘tubs’ of the same general form – a flat base, straight obliquely sloping sides and mostly flat rims – from the 4th until the late 7th century (Fig. 14.5, a) (Yangaki 2005, 157, 300). Minor differences in the formation of the rims, the substitution of vertical for horizontal handles, and the ample use of dense incisions distinguish earlier from later examples; Roman examples of this shape from Knossos are particularly eloquent (Hayes 1983, 109, 132; Forster 2009, 146–7). Similar observations can be made for basins from Gortyn (Albertocchi and Perna 2001, 441; Perna 2010, 916; Albertocchi 2010, 924–5), and Roman basins from Knossos (Hayes 1983, 109, 132), Lappa (Gavrilaki-Nikoloudaki 1988, 48–50), and Gournia (Hayes and Kossyva 2012, 167) offer characteristic early versions of the same, general form.

Cups and mugs offer a contrasting situation: there is either a development within the existing form or completely new forms appear during the 6th and 7th centuries (Yangaki 2005, 136–40). However, the scarcity of evidence from the 5th century, in particular from Knossos and Eleutherna, hinders a better understanding of the abandonment of earlier forms and the appearance of new ones. In general, analogous forms of ceramic types occur at these three Cretan sites, parallels for which can be found at other sites in the eastern Mediterranean and, above all, the Aegean (Yangaki 2005, 296–302). Some forms appear more often at one site than at others, however, or characterize the production of only one site. The first case is represented by type B basins, which were quite numerous in 7th century contexts in Gortyn (Fig. 14.5, b) (Albertocchi and Perna 2001, 442–3; Albertocchi 2011a, 190). In the second case, one can cite, for example, the characteristic ceramic baskets with a high loop handle attached to the inner rim found at Eleutherna (Vogt 2000, 75).



The closed forms of pottery are in general much more numerous than the open forms (Martin 1997b, 296; Albertocchi and Perna 2001, 418; Yangaki 2005, 135–6; Albertocchi 2010, 924–5; 2011a, 183–4) (Pl. 31). Only at Gortyn is the proportion of open forms higher than elsewhere; even there, though, plates are quite restricted in number compared to other forms (Albertocchi and Perna 2001, 418–36). In some cases, the preponderance of closed forms can be explained by their characteristic archaeological contexts, as is the case, for example, with the numerous flagons mainly connected to a reuse of the Roman baths, or with the small amphorae destined for funerary use (Yangaki 2005, 141–2, 296). The existence of numerous examples of fine pottery, mostly ARS and LRC wares, together with their various imitations, seems to offer another logical explanation for the limited presence of plain open forms, since the fine, red-slipped pottery could respond to occasional demand. There may be other probable explanations for the limited general evidence for open, plain clay vessels, including the possible use of open forms made of other materials, such as wood, which is perishable (Albertocchi and Perna 2001, 424), a suggestion strengthened by recent findings of wooden vessels from the Yenikapı excavations (Polat 2013, 189, no. 206). Although, according to researchers, the dining habits of the 4th–8th centuries AD indicate that individual plates were generally not in use and that food was served from a communal dish (Vroom 2003, 312–3, 331–2; 2008, 313–56 and particularly 356; Papanikola-Bakirtzi 2005, 117–9), it has been suggested in the case of the evidence from Gortyn that the various forms of open vessels served multiple uses for the preparation and serving of food, including the individual serving of portions at the table (Albertocchi and Perna 2001, 419, 424). Since these forms occur more frequently in Gortyn and not in other Cretan sites, these remarks stimulate the need for further research on the dining habits of the period.

While these numerous forms of plain pottery served different functions – sometimes simultaneously – for preparing, serving, and/or stocking foodstuffs, there is little data relating to the particular use of each form. There are rare cases of vessels for which a specific use is or could be assigned (Xanthopoulou 2004, 1020; Yangaki 2005, 162–3); the more obvious examples are beehives and baskets, respectively (Pl. 32). Apiculture seems to have had a long tradition on the island of Crete (Yangaki 2005, 162) and, based on archaeological evidence, namely ceramic beehives, it appears to have been quite developed from Roman times on (Francis 2006, 384; Francis, this volume). Of

the two types common in the Greek territory, the horizontal type characterized by a long, tubular body with simple rims and one closed end was used on Crete. These tubular objects were laid on their sides (Hayes 1983, 110; Yangaki 2005, 162–3; Francis 2006, 380–1; 2012, 151–2). Since not many complete vessels have come to light, the existence on the interior surface of combing or scoring facilitates the identification of sherds (Yangaki 2005, 162–3; Francis 2006, 380; 2012, 152). However, since the internal scoring sometimes only covers one part of the body, it becomes evident that their number could well be much greater (Francis 2012, 152); it should be noted, nevertheless, that Crete preserves complete examples of beehives with combing over all their interiors (Yangaki 2005, 450, fig. 61, a). Used alongside this type of beehive are cylindrical extension rings that were added to the tubular hives in order to increase their size and thus the production of honey and wax, as well as to detach some of the combs selectively (Francis 2012, 151). The existence of domed-ended hives instead of the flat ones known from central Greece (Francis 2006, 380), at Gortyn (Martin 1997b, 340, fig. 126), Knossos (Hayes 1983, 110, n. 39), and Eleutherna (Yangaki 2005, 450, fig. 61, a) could indicate that this form of beehive is a Cretan variant (Hayes 1983, 110, n. 39; Yangaki, 2005, 162; Francis, this volume). Further elements, like the forms and the direction of scoring, also back this up (Francis 2006, 387). It has been noted that there was no major development in the typology of these beehives, given that the basic aim of these vessels – beekeeping – remained unchanged over long periods of time (Francis 2006, 385; 2012, 151; Rotroff 2006, 124–31). Nevertheless, a careful examination of rim forms, the exterior decoration of beehives, and the extension rings from different chronological contexts at Gortyn and Eleutherna shows that small variations do exist, with later examples dating from the 6th and 7th centuries adopting specific rim forms and bearing rich, incised decoration on their exterior, which enables them to be distinguished from earlier examples (Albertocchi and Perna 2001, pl. clxxxv, V 2.4/3; Yangaki 2005, 450, fig. 61, b–d). Similar form of rims and incised decoration characterize contemporary tubs and basins from Gortyn (Martin 1997b, 344, fig. 127; 345, figs 128–9; Albertocchi and Perna 2001, pl. clix, C V 1.1/1, pl. clxii, c V 2.1/4, pl. clxiv, C VI 2.2/3) and Eleutherna (Vogt 2000, 155, fig. 27, 1; Yangaki 2005, 447, fig. 58, b, d). Given the general form of ceramic beehives, which resemble tubs, these vessels could have been manufactured in the same workshops as other plain wares (Francis 2006, 384; 2010, 42).

Furthermore, at Eleutherna most of the examples are made with the same fabric as other plain wares, such as basins, jugs, or goblets, which are attributed to local production of the area of Mylopotamos (Yangaki 2005, 281–2), thus implying their parallel production in the same workshops. However, at Gortyn, examples whose fabrics assign them to local workshops (Albertocchi and Perna 2001, 534) have been identified alongside nonlocal fabrics (Martin 1997b, 340–1). Beehives of the above form, together with extensions rings, are found at Eleutherna (Vogt 2000, 95; Yangaki 2005, 162–3) and Knossos (Hayes 1983, fig. 15, 177; 2001, 440–1, 451; Sackett 1992b, 254, pl. 134, 96; Forster 2009, 146–7) and date to the Roman and the first Byzantine periods. In Eleutherna, they account for a stable percentage of the plain pottery between the 4th and 7th centuries, varying between 1% and 5% (Yangaki 2005, 163). They occur also at Panormo (Kalokyris 1955, 325, pl. 123, b) and Aghia Galini (Vogt 1991–1993, 70). They appear frequently at sites in the Sphakia survey (Francis 2006, 380–8), in the Akrotiri areas (Raab 2001, 96, nos 79–80; 97, no. 85; 125), and in the Asterousia survey (Francis 2010, 42–4), where they cover a long period of time from the Roman into the first Byzantine period, although a more precise date for the various sherds is difficult to assign. It is to be noted, however, that the number of beehives from Gortyn is quite small and these, besides some Roman examples, date mainly from the 7th and 8th centuries (Martin 1997b, 339–41; Albertocchi and Perna 2001, 533–4; Albertocchi 2011a, 211). From the above evidence, it can be suggested that in sites like Eleutherna, Knossos, or other inland sites like those from the regions of Sphakia and the Asterousia, which are characterized mainly by a rural economy, the occurrence of beehives offers important information on the role of apiculture in the local economies, providing additional insights into their various characteristics. The evidence from Eleutherna suggests that apiculture was one of the permanent occupations of the inhabitants, and the geographical characteristics of the area certainly would have encouraged its practice. The late evidence on apiculture in Gortyn has been taken to be indicative of a transformation of the general characteristics of the area during the 7th and 8th centuries, which probably experienced a shift in local production, with the inhabitants turning to the production of other kind of goods, including honey and wax (Albertocchi and Perna 2001, 526, 533–4). This seems possible in the light of the limited evidence for earlier beehives at this site during the first Byzantine period and what has been mentioned previously in relation to other Cretan sites

with stronger beekeeping traditions. Nevertheless, the related evidence is still quite scarce in number, and hives could have served other purposes, as well (Rotroff 2006, 130–1), which, according to the interpretation of specific archaeological contexts, could sometimes be quite different from their ‘prime use’ (Germanidou 2013, 91–104). Given that there is evidence for the export of Cretan wax and honey after the Arab conquest of the island (Tsougarakis 1998, 385–6) and that written sources refer to the import of Cretan honey in Egypt during the Hellenistic period (Hanson 1972, 164–5), it would be of interest in the future to trace the possibility of similar exports during the period in between as well.

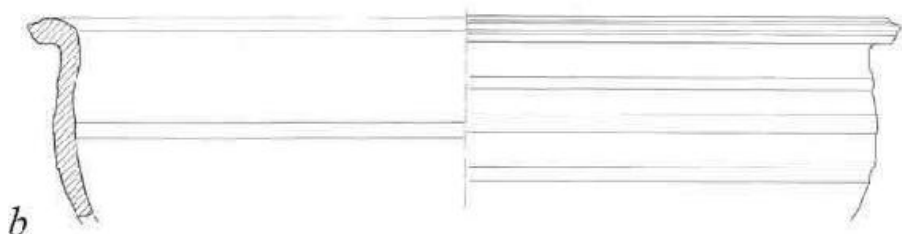
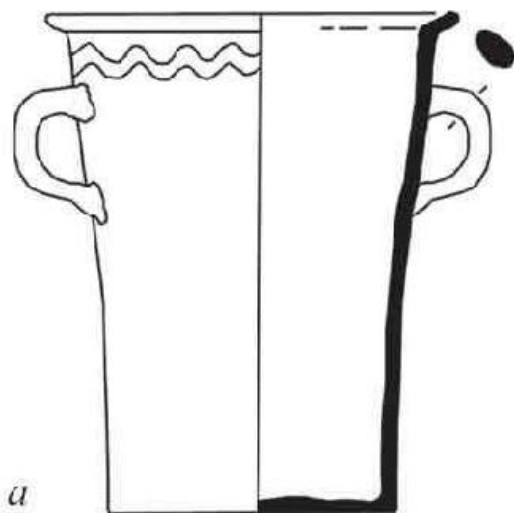


Figure 14.5 Tub, from Eleutherna, Sector I. From Yangaki 2005, fig. 57, c (a). (scale 1:6). Basin of type B, from Gortyn. From Albertocchi and Perna 2001, pl. cxlviii, B V 1.4/1, by permission of the Scuola Archeologica Italiana di Atene (b) (scale 1:6).

Some of the ceramic baskets from Eleutherna are quite distinct in form, with either straight or flaring walls, simple or slightly everted rims, one or several high loop handles, and incised decoration (Vogt

2000, 75). Similar vessels have yet to be published from other areas of Crete, and at Eleutherna this form derives from contexts of the second half of the 7th century (Vogt 2000, 75; Yangaki 2005, 300). These baskets, which were small to medium-sized with rim diameters ranging from 12 cm to 22 cm, were quite practical for transporting semi-liquid or solid substances. Their handles allowed them to be carried in the arms or even attached securely to animals. Given the limited nature of the evidence, however, there is as yet no clear-cut explanation for their use, but given the rural character of the economy of the site during the first Byzantine period (Yangaki 2005, 285, 304, 307–8, 310–3) as well as the specific morphological characteristics of these vessels, it would not be going too far to suggest that they could have been used by the local inhabitants to transport food for immediate consumption in individual or larger quantities on their everyday journey to their fields and animals.

### *Cooking wares*

Three basic categories of cooking wares are particularly common among the material to date: cooking pots, cooking dishes, and frying pans, with their associated lids. While various forms of cooking pots and casseroles are common between the 4th and 8th centuries, cooking dishes and frying pans are characteristic mainly of the 1st centuries AD up until the 4th or 5th centuries. Given what has been previously presented about plain wares, the picture of the cooking wares of the island presents some affinities in that we have much more information to date on wares attributed to local production in specific areas than on imported ones.

More specifically, evidence from sites like Gortyn (Rendini 1988c, 253–61; Martin 1997c, 346–65; Sirano 2001, 537–61; Veronese 2002, 898; Albertocchi 2011a, 215–26), Eleutherna (Vogt 2000, 76–80; Yangaki 2005, 165–80, 301–2), Knossos (Hayes 1983, 105–6; 2001, 441, 449; Forster 2009, 132–9), Itanos (Xanthopoulou 2004, 1020, 1022; Xanthopoulou *et al.* 2014, 810–3), Agioi Asomatoi Vafes and Kefala Vrises (Fiolitaki 2014, 469–76) provides the most analytical sample for this period and shows that various forms of cooking wares are connected to the local production of the island or of each area (Fig. 14.6), based either on their macroscopic fabric typology (Martin 1997c, 346–9; Fiolitaki 2014, 469) or on petrographic (Xanthopoulou *et al.* 2014, 812–3) or chemical analysis (Yangaki 2005, 281–2). The information on various cooking pots whose form and/or fabric do not suggest specific provenience, however, is not very conclusive (Hayes

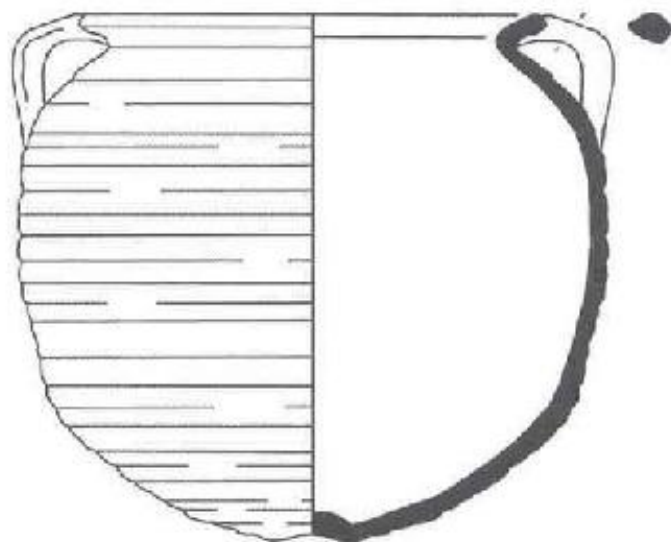
2001, 440, A34; 441, A46–A47; 442, A56; 449, B53–B55; Gallimore 2011, 309–10) or is only very general (Hayes 2001, 440, A35; Yangaki 2005, 166, 168, 172–3, n. 841; Gallimore 2011, 308–9). While at these sites a distinction is made between local and imported forms, given the generally limited information on the provenience of specific forms of cooking wares (Gallimore 2011, 306–7) circulating in the eastern Mediterranean during the Roman and the first Byzantine period, only general remarks can be made on their provenience based on forms and fabrics.

The evidence to date for imported cooking-wares shows that some imported cooking pots with characteristic forms and fabrics do occur in contexts from between the 3rd and early 5th centuries AD, such as those from Knossos (Hayes 1983, 126, nos 94, 98; Sackett 1992b, pl. 194, 77; Forster 2009, 132–4, nos 188–90; 136–9, 203), Gortyn (Martin 1997c, 347, 352, no. 14, pl. cxxiii, 2, pl. cxxvii, 1; Sirano 2001, 552, pl. cxcv, C VII 3.2/1), Eleutherna ([Fig. 14.7](#)) (Yangaki 2005, 166, 168–9), or Gournia (Hayes and Kossyva 2012, 169), for which an Aegean (Hayes 1992, 53–4, 93, deposit 8, no. 2) or Asia Minor provenience is ascribed (Istenič and Schneider 2000, 341–8; Doksanalti 2010, 770, 775, fig. 9; Waksman and Lemaître 2010, 783, fig. 5), but there is little information for the imports of later centuries. For example, the evidence for cooking pots from the Near East, the Aegean, Asia Minor, and Constantinople is limited to Eleutherna (Vogt 2000, 77, fig. 29, 2), Gortyn (Rendini 1988c, 256–7; Martin 1997c, 346–9; Sirano 2001, 545, type c I 1.1/4; Panero 2010, 909; Albertocchi 2011a, 215–7), Knossos (Frend and Johnston 1962, 224, fig. 17, 65; 226, no. 65; Hayes 2001, 434, 440, A35), Vafes and Kefala Vrises (Fiolitaki 2014, 470–1). At Gortyn, where the evidence for imports is more numerous, it has been suggested that some cooking pots were imported from the Aegean region during the 6th and 7th centuries (Rendini 1988c, 257–9, no. 257; Martin 1997c, 355, no. 38, pl. cxxvii, 6; Panero 2010, 909), and recent research using chemical analysis on similar vessels from other parts of the Mediterranean seems to verify this attribution (Waksman and Trégliá 2007, 646–51, figs 1, 5, 8).

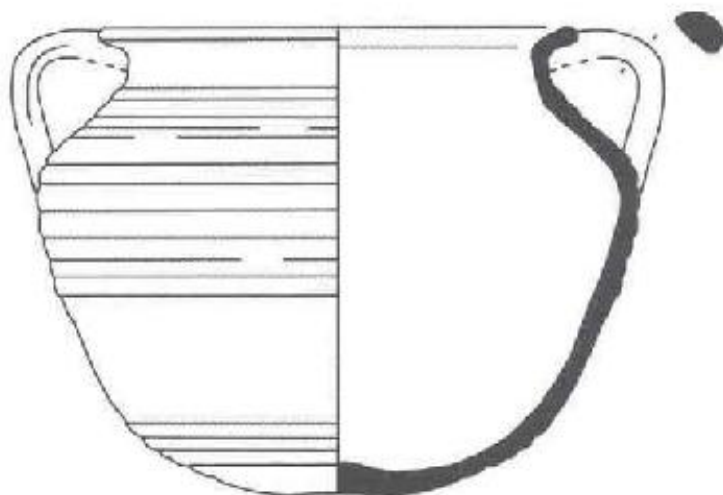
There is also a small amount of evidence for the importation of a few cooking pots during the 7th and 8th centuries, since examples from Gortyn ([Fig. 14.8](#)), namely those made in A. Martin's fabric 8 (Martin 1997c, 356, pl. cxxviii, 4), find their equivalent in cooking pots considered to be products of Constantinople (Hayes 1992, 54–5),

the so-called 'grey-gritty ware' (Hayes 1992, 54–5; Bien 2007, 264, 270, fig. 3, 47–48). Examples of this ware have also been identified from the survey at Akrotiri (Chania) (Raab 2001, 94, no. 66; 117, no. 225), together with a fragment of J. Hayes's 'micaceous brown ware' of a similar date and likely of Asia Minor provenience (Hayes 1992, 55, 57). At Itanos, some examples of the middle or the second half of the 7th century also suggest a Constantinopolitan origin (Xanthopoulou 2004, 1022, pl. 10, 6–7; Poulou-Papadimitriou 2011, 396), while a cooking vessel of the 8th century from Pseira constitutes an imported product from the Cyclades (Poulou-Papadimitriou 2011, 396, fig. 12). In most cases, while similarities in form are noticed among sites inside and outside Crete (Yangaki 2005, 166, 168; Gallimore 2011, 312, 315, nos 366–9; Fiolitaki 2014, 470–71), and while some fabrics are considered to correspond to Cretan productions of known or unknown sources (Martin 1997c, 347; Poulou-Papadimitriou and Nodarou 2007, 757–8; Fiolitaki 2014, 470–1) – thus implying that not only extra-regional but also intra-regional contacts could have taken place on the island – and given that in most cases it is difficult also to compare fabric descriptions, further remarks about possible common provenience cannot be made with certainty.

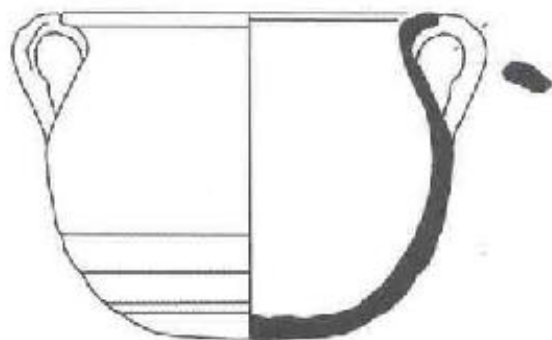
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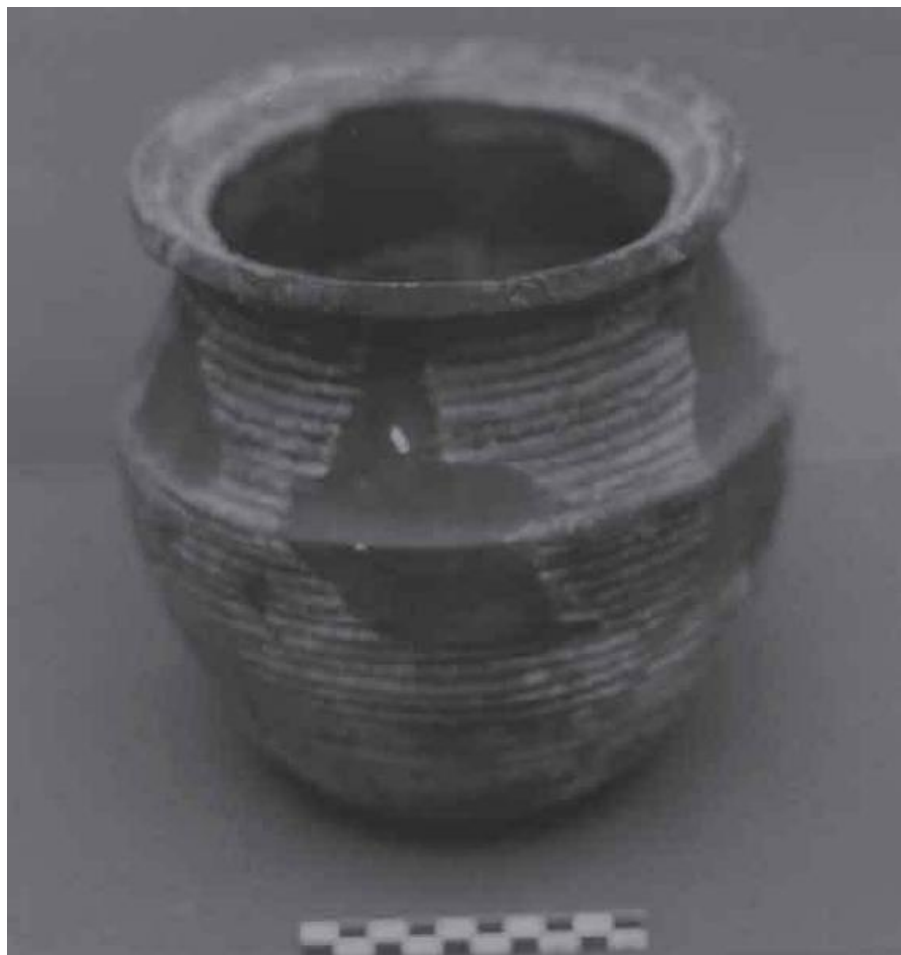
*c*





*Figure 14.6 Cooking pots with horizontal rim, from Eleutherna, Sector I. From Yangaki 2005, fig. 35, a–c (scale 1:4).*

The evidence from Gortyn and Eleutherna also shows that, besides these rare imports, there are numerous examples of cooking pots that can be considered as local ‘imitations’ of imported types since they share similarities in form but have fabrics attributed to the local production (Martin 1997c, 352, nos 18–9; 354, nos 33–4; Yangaki 2005, 167–8). In addition, the local production of various forms without parallels at other sites is quite frequent and encompasses numerous forms, particularly during the 6th and 7th centuries (Yangaki 2005, 301). The existence of these different forms during the same period seems to imply that they could have been intended for different, possibly new, specific culinary purposes (Bakirtzis 2005, 113–4), but this has yet to be properly demonstrated.



*Figure 14.7 Cooking pot, from Eleutherna, Sector I. Photo by author, from*

Cooking dishes and frying pans are mostly attributed to non-local productions; these occur mainly in contexts of the 1st centuries AD, with some occurring into 4th and 5th centuries AD (Hayes 1983, fig. 9, 99, 106, 109; Gavrilaki-Nikoloudaki 1988, 55, no. Π4347; Sackett 1992b, pl. 137, 24, pl. 193, 64; Martin 1997c, 359, pl. cxxxiii, 3–5; Sirano 2001, 554–7; Yangaki 2005, 179–80; Gallimore 2011, 316–8). Frying pans seem to appear in later centuries but irregularly, as indicated by examples from Knossos (Hayes 2001, 447, B27), Gortyn (Sirano 2001, 558, pl. cxcviii, C XII 1.1; Panero 2010, 917) and Vafes (Fiolitaki 2014, 471). At Itanos, however, they seem to have been in more continuous use through the centuries (Xanthopoulou 2004, 1022). For the time being, the occurrence at Eleutherna of a grill, probably used mainly for meat (Gouin and Vogt 1998, 294–5), during the 7th century is exceptional (Gouin and Vogt 1998, 287–8; Vogt 2000, 80). It follows, however, an old tradition, as is shown by an analogous clay object from ancient Olympia dated to the 4th century BC (Kunze and Schleif 1944, 103, figs 47–48, 104).

We cannot be certain whether the increase in the number of cooking pot forms during the 6th and 7th centuries compared to the scarcity of other cooking wares, like cooking dishes and frying pans, indicates some shift in dietary preferences and in the methods of processing raw foodstuffs at specific sites; more evidence is needed, although this is quite a feasible hypothesis. Cooking pots appearing from the second half of the 7th century and into the 8th century, like those mentioned above, or those characterized by brownish or silvery mica-rich fabrics found at Akrotiri (Raab 2001, 94, no. 66; 117, no. 225), Eleutherna (Fig. 14.9) (Yangaki 2005, 175–6), and Pseira (Poulou-Papadimitriou 1995, 1123, 1125; Hope Simpson *et al.* 2005, 218, M 94.2; Poulou-Papadimitriou and Nodarou 2007, 757–9), together with the appearance of locally made, coarse cooking pots with thick walls that sometimes seem to have been made on low-speed potter's wheels and display general morphological similarities to the previous form (Yangaki 2005, 177–8, 302), show that new shapes appeared during this period. The coarsely made cooking pots suggesting the occasional use of the wheel indicate the different conditions emerging during a period of transition for the Byzantine Empire, to which inhabitants tried to adjust (Poulou-Papadimitriou 2001, 240–1). The cooking pots with a fabric rich in mica testify to contacts either with areas like Constantinople, Asia Minor, the

Cyclades, or, also possibly, with other parts of Crete (Yangaki 2005, 176, 281; Poulou-Papadimitriou and Nodarou 2007, 757; Poulou-Papadimitriou 2011, 396). One can note, for example, that a similar micaceous fabric characterized by frequent silver mica schists that produce a glittery appearance has been identified from the survey of the Mirabello region (Mook 2005, 171–2, type XVI, pl. 33, A–B). The coarsely made cooking pot marks a turning point in the local organization of pottery production (Yangaki 2005, 285), whose previously organized form seems to give way to a much less-developed scheme not yet properly known. The few, for the moment, imported cooking pots of the 7th and mostly the 8th century further emphasize the commercial relations of the island with outland areas in the course of these transitional centuries, especially since cooking pots were in the main imported for their own, specialized properties, in contrast, for example, with amphorae, which constituted packages imported for their contents. The nature of these contacts as well as of local productions both need to be better understood before advances can be made in this until recently neglected category of pottery.

It should nevertheless be noted here that colleagues working on late-Byzantine material from sites on mainland Greece with different historical circumstances have suggested that variations in the forms and fabrics of cooking pots may reflect variations in diet and subsequently differences in cultural identities (Vroom 2003, 233, 329; Joyner 2007, 189–90, 204–5; Vroom 2011, 421–5). There may be an interconnection between the numerous forms of cooking pots, the limited evidence for frying pans, and a consequent fluctuation in diet at specific Cretan sites from the 6th century onwards. Additionally, one should perhaps also wonder if the introduction of new forms during the course of the 7th century, such as the micaceous cooking-pots (Fig. 14.9, a), which, given their distinct fabrics and thin walls, would have particular physical properties (Joyner 2007, 189), does not also mark a shift in dietary preferences and cooking techniques. The existence of a chafing dish from Pseira dating from the late-8th to early 9th century supports this view (Poulou-Papadimitriou 1995, 1121–2; 2001, 239; 2011, 392), constituting as it does an early example of this type of vessel. Even if this remains an isolated case for the time being, sites like Eleutherna and Pseira, which offer similar evidence on cooking pots of the advanced 7th and the 8th centuries, do imply that a transition touching on multiple aspects of everyday life took place on the island during this period and may express new social conditions.



Figure 14.8 Fragment of a cooking pot, from Gortyn. From Martin 1997c, pl. cxxviii, 4, by permission of the Scuola Archeologica Italiana di Atene.

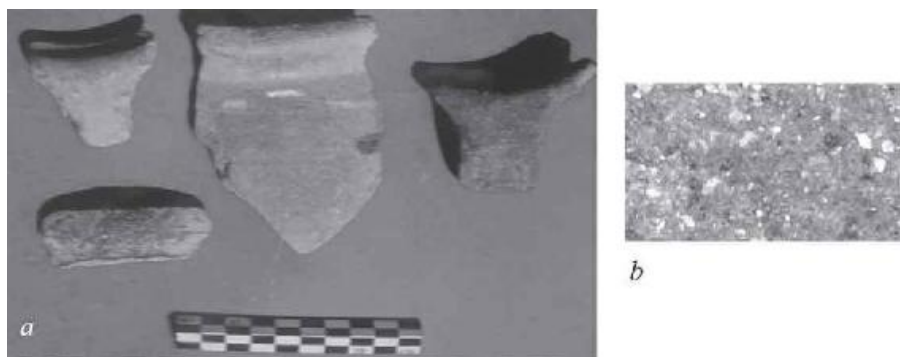


Figure 14.9 Fragments of micaceous cooking pots, from Eleutherna. Photo by author (a). Fabric of micaceous cooking pot, from Eleutherna. Photo by author (b).

## ***Amphorae***

Most of the evidence for amphora imports in Crete during the first Byzantine period comes from the excavations at Gortyn (Rendini 1988d, 268–75; 1997, 371–89; 2004a, 241–53; 2004b, 349–59; Portale and Romeo 2001, 313–59, 407–9; De Aloe 2009, 38–43; Zanini 2009, 53–4; Portale 2010, 931–4; 2014, 478–82), Knossos (Forster 2009, 156–61), Eleutherna (Vogt 2000, 81–93, figs 39–43; Yangaki 2005, 197–213), Hierapytna (Gallimore 2011, 337–52), and Itanos (Xanthopoulou 2004, 1022). However, only some of the relevant publications offer a more synthetic and detailed presentation of the imported amphorae (Gortyn, Eleutherna, Hierapytna), with others offering general evidence on the types occurring (at Itanos) or evidence limited to a particular excavated area. Additional evidence is available from surveys like those on the Akrotiri peninsula, Gournia, Pseira, or the Asterousia (see below), but this situation makes it both difficult and also somewhat unrealistic to proceed with a detailed, comparative, concise, and comprehensive presentation of the existing evidence.

What can be put forward in this general *état de lieu* on the island's pottery of the first Byzantine period, however, is that at first glance all the standard forms of eastern Mediterranean amphorae (types LRA1–7) appear to have arrived on the island together with other amphorae of Aegean, Asia Minor, or African provenience. The percentages of each vary considerably from site to site and from sub-period to sub-period, and to date our secure information for these types comes mainly from Gortyn, Eleutherna, and Hierapytna. Also, amphorae from the Iberian and Italian peninsulas occasionally occur in contexts of the first Byzantine period (Portale and Romeo 2001, 374–5, 407–9; Romeo and Portale 2004, 969; Yangaki 2005, 197–213; De Aloe 2009, 41; Portale 2010, 933; 2011, 147; Gallimore 2011, 337–52). More specifically, while types LRA1, LRA2, LRA4, LRA5/6, and LRA8 appear at minor inland sites, as demonstrated by evidence from Eleutherna (Vogt 2000, 81–8; Yangaki 2005, 305), these are considerably more restricted in number than they are at prominent coastal or inland sites such as Hierapytna, Itanos, and Gortyn. Also, from the 4th and 5th centuries onwards, types like LRA2, LRA3 or Agora M273 show that Aegean/Asia Minor products were imported into Gortyn, Eleutherna, and Hierapytna, but also to other sites on the island like Kydonia (Chania) (Yangaki and Gratsiou 2012, 40–1, nos 3–4 [E. Charitopoulos]), the Akrotiri peninsula (Raab 2001, 89, 90, 93, 95), the region of Sphakia (Nixon *et al.* 2000, 8.07:UncatG02–G03, 8.22:UncatG04, 8.39:UncatG20), Aghia Galini (Vogt 1991–1993, 61–2), the plain of Phaistos (Watrous and Hadzi-Vallianou 2004b, pl. E.22), Priniatikos Pyrgos (Klontza-Jaklova 2014, 801), the Gournia (Hayes and Kosyva 2012, 169) and the Asterousia surveys (Francis 2010, 40–1, PR136), and Itanos (Poulou-Papadimitriou and Nodarou 2014, 877), while quantitative data from the first three sites imply that Near Eastern types (see below) generally become more prevalent from the 6th century onwards (Portale and Romeo 2001, 295, 344–54, 394–7, 407–8; Rendini 2004a, 250–1; 2004b, 353–5; Romeo and Portale 2004, 971; Yangaki 2005, 305–6; De Aloe 2009, 41; Gallimore 2011, 338–9, 570–2). Moreover, the percentage of these former forms varies from site to site; LRA2 amphorae for example, are more common at Hierapytna than at Eleutherna. Among Near Eastern types, amphorae LRA1, LRA4 and LRA5/6 are quite common in Gortyn from the 5th century onwards, with LRA1 reaching high numbers during the first half of the 7th century (Belli-Pasqua and La Torre 1994–1995, 216–7; Portale and Romeo 2001, 398; Romeo and Portale 2004, 971; De Aloe 2009, 41; Portale 2011, 147, 176; 2014, 478–9, 481); they

also appear to be frequent at Hierapytna (Gallimore 2011, 339, 351–2) and Itanos (Poulou-Papadimitriou and Nodarou 2014, 877). While LRA1 also occurs at Eleutherna, although not in high numbers, the other two types are quite rare (Vogt 2000, 84–6, 100). In fact, information from Gortyn, Herakleion, and Pseira shows that during the course of the 7th and the 8th centuries – and, in rare instances, during the period of the Arab conquest – amphorae of Palestinian provenience continued to arrive in Crete (Poulou-Papadimitriou 2001, 242, 244; 2003, 211–2, fig. 3; Romeo and Portale 2004, 971–2; Portale 2011, 148–51; 2014, 480–1; Poulou-Papadimitriou and Nodarou 2014, 876), which could perhaps be related to the occurrence of several Syro-Palestinian lamps of the same period found at various Cretan sites. Trade connections with sites in the Near East continued to be vigorous during this period. Nevertheless, a fall in Near Eastern imports has been noted during the course of the 7th century and possibly earlier, with ‘Aegean’ products becoming more common once more and prevailing, imported inside new packages known as globular amphorae (Portale and Romeo 2001, 395–7, 408–9; Romeo and Portale 2004, 968; Yangaki 2005, 305–6; Fabrini and Perna 2009, 131; Portale 2014, 481), the so-called Byzantine globular amphorae, with globular or globular/ovoid body (Poulou-Papadimitriou 2001, 245–7; Poulou-Papadimitriou and Nodarou 2014, 874). The ample numbers of these forms in Gortyn during the later 7th and the 8th centuries compared to their rare presence in Eleutherna is indicative of the distinct character of these sites (Pl. 33): one was a prominent Cretan centre, and the other an inland site of rural character. Moreover, data relating to the arrival of amphorae of possible Samian provenience during the 7th century at Gortyn and the 8th century on Pseira adds further information on the Aegean contacts of the region (Portale and Romeo 2001, 350–1; Poulou-Papadimitriou 2001, 242, 244; Poulou-Papadimitriou and Nodarou 2007, 758–9; Portale 2011, 161). The presence of these types implies that some sort of exchange and contact existed with the Aegean region whose nature and characteristics have yet to be explored. Egyptian amphorae have been noted at Gortyn and Hierapytna, albeit in low quantities, while they have been found during the whole period in Gortyn, where they even occur, as they do at Hierapytna, during the 7th century; the comparable evidence from Eleutherna is quite scarce (Vogt 2000, 89–90; Portale and Romeo 2001, 397–8, 405; Rendini 2004a, 251–2; 2004b, 356–7; Yangaki 2005, 306; De Aloe 2009, 41; Gallimore 2011, 346–7; Portale 2011, 152–4, 177–8; 2014, 481). Their presence could

be connected to the distribution of *annona* towards Constantinople (Romeo and Portale 2004, 970; Gallimore, in this volume).

As for the North African amphorae, among Keay XXV, VIIIA-b, LXII and LRA8a-b types, the LRA8b is the more common amphora at Gortyn; in fact, African amphorae are present from the 5th century onwards at that site, with *spatheia* (LRA8a) still reaching the site during the late-7th century (Fig. 14.10) (Portale and Romeo 2001, 313–23, 397; Rendini 2004b, 357–8; 2004c, 975–88; De Aloe 2009, 40–1; Portale 2011, 143–4; 2014, 480). *Spatheia* of the second half of the 7th and the early 8th century have also been found in Pseira (Poulou-Papadimitriou and Nodarou 2014, 876). There is no similar evidence from Eleutherna, but data from Hierapytna (Gallimore 2011, 342–3, 570–2), sites of the Gournia Survey (Hayes and Kossyva 2012, 168–9), Knossos (Hayes 2001, 449), and Pseira (Hope Simpson *et al.* 2005, 48, 55, 80, 123, 137) show that the arrival of African amphorae seems to have been quite constant during the first Byzantine period in sites, mainly coastal, in central and eastern Crete, although the amphorae occur in low quantities and with no such preponderance of *spatheia*. Their presence further enhances the suggestion regarding the material from Gortyn (Romeo and Portale 2004, 968–9) that the island of Crete played an important intermediate role in the redistribution of African products towards the Aegean. For the 8th and 9th century, the data presented little by little from sites like Pseira (Poulou-Papadimitriou and Nodarou 2007, 758, figs 4e, 6, 13; 2014, 876, fig. 9), or Vafes (Fiolitaki 2011, 94) seem to be quite promising in offering up the future possibility of exploring exchanges between Crete and other regions, such as the Argolid, and thus adding to the data from Gortyn and Eleutherna. Additionally, research at Priniatikos Pyrgos seems to offer important evidence about the amphorae circulating in Crete during the transition from the first Byzantine period into the Arab conquest and beyond, since various fabrics characterize the ovoid/globular amphorae found at the site (Hayden and Tsipopoulou 2012, 557, n. 157; Klontza-Jaklova 2014, 801–2).

Besides the numerous imported amphora types that testify to the importation of various products onto Crete during the first Byzantine period, amphorae attributed to local production bear witness to a continuous, local agricultural production from the Roman period onwards for which products these vessels were intended; these constitute by far the most numerous group of packaging vessels at each Cretan site for which there is quantitative data. More specifically,

since the first identification of Roman (Hayes 1983, 141–5) and late-Roman (Rendini 1990, 234–40; 1997, 374–5) types of amphorae attributed to local production, written evidence combined with archaeological research has brought to light the main forms of local amphorae dating from the Hellenistic and mostly the Roman periods (Marangou-Lerat 1995). Since then, thanks to the analytical evidence provided by the excavations at Gortyn (Portale and Romeo 2001, 417–26; 2001, 260–410; Portale 2010, 933–4; 2011, 127–42) and Eleutherna (Yangaki 2004–2005, 503–23; 2005, 181–97), a detailed typology of Cretan amphorae of the first Byzantine period has been taking shape, with several forms dating even from the 7th until the early 9th centuries. This ongoing procedure, which will certainly be supplemented with further evidence from other Cretan sites, enables us to enumerate up to 20 amphora types, some of which constitute groups of types and include numerous sub-types. We are also now better informed as to the date range of each and, above all, about the various forms of amphorae circulating on the island during the 7th, 8th and 9th centuries. These typologies indicate that new types appeared during the late 3rd and the 4th centuries AD that are clearly distinguishable from earlier, Roman forms; these adopt an ovoid rather than cylindrical body, a characteristic common in other ceramic forms of the same period (Portale and Romeo 2001, 276–7). In fact, a general overview of the existing data reveals that Cretan amphorae can be grouped on the one hand into forms of an indigenous inspiration and on the other into forms that imitate well-diffused amphorae of varied provenience – this is true of Roman types ARC2 and ARC4, which imitate amphorae from the islands of Rhodes and Kos respectively. The phenomenon becomes more intense during the course of the first Byzantine period, and particularly from the 7th century onwards, since types TRC9 and TRC10 are morphologically inspired by imported types LRA1 and LRA2, respectively (Yangaki 2007, 768) (Pl. 34). As for the suggested Cretan provenience of the type TRC11, inspired by LRA8a, this needs to be verified (Portale and Romeo 2001, 311–2; Portale 2014, 480).

In addition, two basic shapes characterize the local production: oblong and cylindrical/ovoid, and large and globular. During the course of the first Byzantine period, the cylindrical, oblong forms of the Roman period (ARC1–2, ARC4, MRC1–3) began to be supplanted by more ovoid, larger types (MRC4, TRC1, TRC2) (Pl. 35, a, Fig. 14.11, a); from the 7th century, in particular, onwards globular forms (TRC7, TRC10, TRC12–16), larger and shorter than earlier examples,



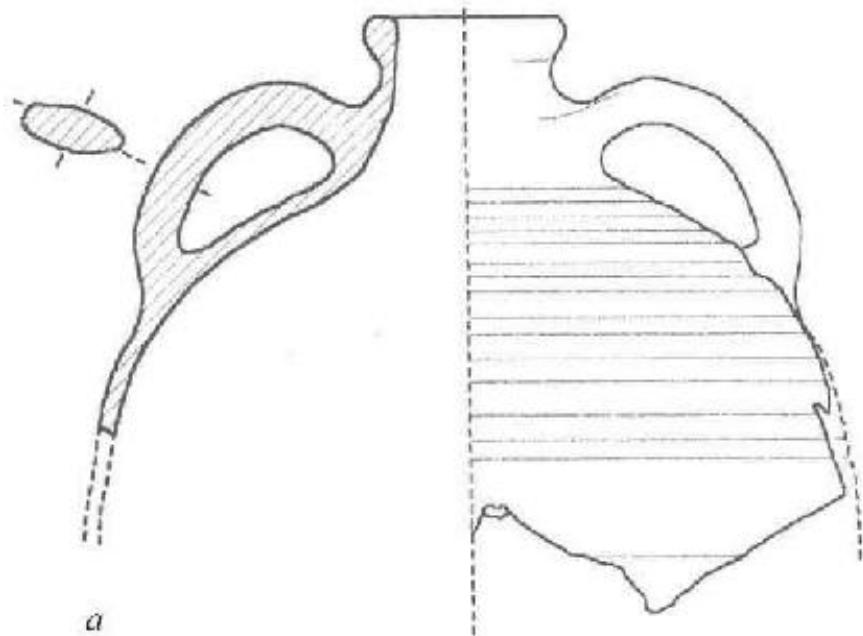
and with a round or concave base, come to dominate, becoming predominant during the 8th and probably the 9th centuries (Pl. 35, b). Alongside these, local oblong, cylindrical/ovoid amphorae continue to be produced, as demonstrated by amphora TRC4 (Fig. 14.11, b) (Portale and Romeo 2001, 422) and by later amphorae from Herakleion (Poulou-Papadimitriou 2011, 400–1, fig. 21), Moires (Sythiakakis and Vassilakis 2012, 313, 322, fig. 3), and Pseira (Poulou-Papadimitriou and Nodarou 2007, 758, 766, fig. 6, 14; Poulou-Papadimitriou 2011, 401, fig. 18), for example, but the majority of the production is characterized by globular forms, like those encountered at Gortyn, Knossos, Eleutherna, Vafes, Pseira, and Petras (Hayes 2001, 441, fig. 5, A58; 442; Portale and Romeo 2001, 303–13; Yangaki 2005, 189–97; Fiolitaki 2011, 92–3; Poulou-Papadimitriou 2011, 400, 402; 2012, 317). The various forms of globular amphorae well diffused in the Mediterranean from the 7th century onwards surely influenced the Cretan types, and local types of the first Byzantine period are more numerous than Roman ones. It seems that most local amphorae circulated simultaneously and that some were more common than others, as indicated, for instance, by examples of type TRC2 (Fig. 14.11, a), which is the most common type at Gortyn and Hierapytna during the 5th and the 6th centuries (Portale and Romeo 2001, 302–4; De Aloe 2009, 40; Gallimore 2011, 485, 491; Portale 2011, 134), although TRC4 (Fig. 14.11, b) also seems to appear frequently in some contexts (Fabrini and Perna 2009, 129; Bonetto *et al.* 2010, 900; Portale 2011, 136). Furthermore, some types seem to have come to light at specific sites, as is the case with TRC13–16 found in Eleutherna (Yangaki 2005, 196–7). This could imply that some forms were produced to respond to individual, local needs, but we should also bear in mind that local amphorae of the 7th and 8th centuries have not yet been fully explored, and further examples and forms should be expected; these could add further evidence to the ‘isolated’ forms that have come to light thus far. Nevertheless, these many diverse forms seem to indicate that from the 6th century onwards, in particular, together with more diffused and standardized types like TRC2, TRC4, TRC10, and TRC12 (Portale and Romeo 2001, 302; Fabrini and Perna 2009, 129; Bonetto *et al.* 2010, 900; Portale 2014, 478–9), Cretan production centres display more independence than they did in Roman times and were also producing other variants destined for local consumption (Yangaki 2007, 770–1; Gallimore 2001, 474, 485). This active production during the 6th, 7th, 8th, and even 9th centuries reflects a rather flourishing economy at

specific sites such as Eleutherna, Gortyn, and Pseira (Yangaki 2005, 522–3; 2007, 770), even though a similar view cannot be expressed for sites like Hierapytna, which, given the evidence to date, seems to have been in decline from the 6th century AD (Gallimore 2011, 481, 485–6).

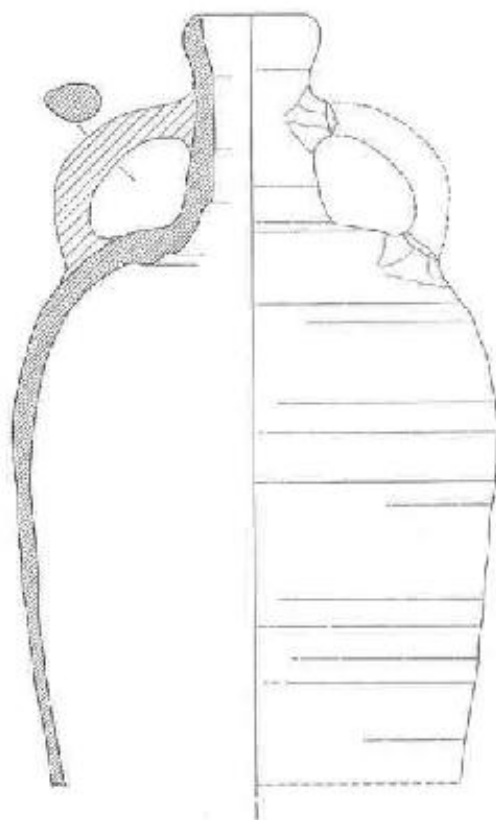


*Figure 14.10 North African amphorae ('Spatheia'), from Gortyn. From Rendini 2004c, 978, fig. 3, by permission of the Scuola Archeologica Italiana di Atene.*

This ample information for local forms is not, however, combined with commensurate evidence about the centres where they were produced. In contrast to our information relating to Cretan amphora workshops of the Roman period (Marangou-Lerat 1995, 35–64 and, in addition, remarks in Hayes and Kossyva 2012, 174), local workshops of the first Byzantine period were active in the regions of Mesara and Mylopotamos, as is suggested by the study of pottery from Gortyn (Portale and Romeo 2001, 390–1; Poulou-Papadimitriou and Nodarou 2014, 876) and Eleutherna (Yangaki 2005, 281–5, appendix I, table II). In the last case, chemical analysis of samples of plain, cooking wares and amphorae strengthens this conclusion, even though no installations for such a pottery production have been published. Local production of amphorae of the late-7th to early 9th century has also been identified in the area of Mochlos (Poulou-Papadimitriou 2011, 402, 404, 408–9; Poulou-Papadimitriou and Nodarou 2014, 875) and of Kalo Chorio-Istron (Klontza-Jaklova 2014, 802, figs 14–15). The only concrete evidence for a workshop is at Chersonisos (Marangou-Lerat 1995, 45, 63, 160; Portale and Romeo 2001, 307, 389, n. 110), which seems to have remained in use even during the first Byzantine period. One wonders whether more pottery workshops remain to be found for this period in the interior of the island rather than in coastal areas, as was the case in Roman times (Yangaki 2007, 771).



*a*



*b*

*Figure 14.11 Cretan amphora TRC2 type, from Gortyn. From Portale and Romeo 2001, pl. xlv, a, by permission from the Scuola Archeologica Italiana di Atene (a) (scale 1:4). Cretan amphora TRC4 type, from Gortyn. From Portale and Romeo 2001, pl. xlv, e, by permission from the Scuola Archeologica Italiana di Atene (b) (scale 1:4).*

What about the diffusion of all these ceramic types inland as well as beyond the island? Most of these types witnessed an inland distribution, but aside from examples connected with the local production of each site, there is as yet no concrete information for inter-regional contact between one area and another, apart from limited evidence from Pseira (Poulou-Papadimitriou and Nodarou 2007, 758). Given the scarcity of available data for the export of Cretan amphorae during the first Byzantine period until recently, it has been suggested that the export of Cretan wine did not continue on the same scale as during the Roman period (Marangou 1999, 278; Portale and Romeo 2001, 379–80, 389–90). This misleading image was mainly derived from the fact that researchers working on material from other Mediterranean regions only recently became familiar with Cretan forms of the first Byzantine period (Gallimore 2011, 478–9), and thus, during this last decade, data has begun to accumulate for a diffusion of Cretan amphorae, mostly in eastern Mediterranean areas such as the Aegean, but also in the Black Sea (for a collection of the references: Gallimore 2011, 485–91, 664, fig. 6.13; 667, fig. 6.16; also, additionally, Dafi 2010, 153–68; Reynolds 2010, 94–9, 113–4). In some cases, the evidence is still sporadic (Romeo and Portale 2004, 965), and it thus seems that Cretan amphorae continued to be exported during the 4th and 5th centuries but on a limited scale only, reflecting a possible reduction in exports (Gallimore 2011, 478). However, data accumulated from the 6th and 7th centuries reveal an overall change in Crete's role, given that Cretan amphorae had circulated mostly in the western Mediterranean during Roman times (Marangou 1994, 142, fig. 1; Marangou-Lerat 1995, pls xli, xliii, xlv, xlvii, xlix), while from the 4th century onwards, probably under the influence of new historical conditions, Cretan products were mainly oriented towards the eastern Mediterranean and witnessed a significant diffusion at Black Sea sites (Gallimore 2011, 479; 667, fig. 6.16; Gallimore, this volume).

Most amphorae found in the Aegean region belong to MRC2, TRC1, and TRC2 types (Portale and Romeo 2001, 390, n. 111; Gallimore 2011, 490–1, n. 426), while those found further north mainly

constitute the TRC4 type (Fig. 14.11, b) (Sazanov 2007, 807–8; Gallimore 2011, 488–9; Sazanov 2011, 95–6; Sazanov 2014, 399, 401–2). Gallimore has recently put forward the idea that, while the export of the first types probably represents private mercantile activity, the mass arrival of TRC4 in Black Sea sites, some of which were military installations, should be interpreted as evidence for the participation of Crete in the *annona militaris* (Gallimore 2011, 487–91; Gallimore, this volume). Indeed, quite recently, the production of amphora workshops on Cyprus and Kos dating from the late 6th and the 7th centuries has been related to the mechanism put in place by Justinian to provision northern regions with products from southern provinces (Demesticha 2002, 119; Moniaros 2009a, 145–58; Diamanti 2010, 166–8; Poulou-Papadimitriou and Didioumi 2010, 744). That the island of Crete directly participated in the so-called *Quaestura Iustiniana Exercitus*, which comprised Moesia Secunda, Scythia Minor, Caria, Cyprus, and the Islands (Jones 1964, 280), needs further elaboration, however, and additional research into other aspects of the island economy that could reinforce this view is needed, since even a recent, analytical study dedicated to the *Quaestura* implies no such possibility (Moniaros 2009b, 93–9).

With regard to the administration of Crete, it needs to be pointed out that the island belonged to the Illyrian Prefecture and was characterized by an ‘autonomy,’ even during the 7th and the 8th centuries, while the provinces of the *Quaestura* initially belonged entirely to the prefecture of the East (Ragia 2011, 105–6, 108). Of course, the numerous examples of TRC4 amphorae found around the Black Sea and their common occurrence at sites like Gortyn and Itanos (Portale and Romeo 2001, 306–7, 391; Gallimore 2011, 489, n. 422; 490), together with minimal evidence for their presence in sites like Eleutherna and Hierapytna (Yangaki 2005, 191–2; Gallimore 2011, 489), implies that this type constitutes a container that was basically used for extra-regional diffusion and possibly from northern Cretan sites towards the north, but this issue needs further research. First of all, the characteristics of the numerous sites in the Black Sea need to be clearly documented, allowing us to better compare the nature of each site (military installation, settlement of urban character) with the amphorae attested there, since their arrival may correspond also to private mercantile activity (Diamanti 2010, 167). Furthermore, examples of TRC4 amphorae found at Black Sea sites present several morphological variations, suggesting different sub-types with a date range spanning from the second quarter of the 6th until after the

second half of the 7th century AD (Sazanov 2007, 815, fig. 7; 2014, 401–2, 407–8, figs 6–8), while other types of Cretan amphorae, such as TRC5 and TRC9, do frequently occur in the same contexts, thus reflecting a much more complex image (Portale and Romeo 2001, pl. xlv, f–g, pl. liii, f; Sazanov 2007, figs 7, 8, 20; 2014, 403–4). A refining of the data could thus reshape the state of this evidence, while one could also consider the possibility of an indirect involvement of the island in the aforementioned mechanism, with the Aegean islands acting as intermediate stations, as places of transshipment, for the transport of Cretan amphorae towards northern areas.

Even if our information on the export of Cretan amphorae in the first Byzantine period is now much more ample, significant progress has yet to be made in allowing examples of Cretan amphorae from various sites to be identified with specific areas of production and thus to illustrate inter-regional and extra-regional contacts. An important obstacle to this is the scarcity of fabric descriptions either from settlements considered to have a local production of pottery or from areas where amphora workshops have been identified, like those published by A. Marangou (Marangou-Lerat 1995; Gallimore 2011, 328). In some cases, like Gortyn, fabric descriptions do exist (Portale and Romeo 2001, 269, 302), and recently a petrographic description has been made for the main local fabric (Poulou-Papadimitriou and Nodarou 2014, 876, 882 fig. 14). At Eleutherna, the more common fabrics, beside analytical description, have been documented photographically (Yangaki 2005, 36–7). Material from Pseira has been examined using petrographic analysis, which also allows specific fabrics to be recognized (Poulou-Papadimitriou and Nodarou 2007, 755–66; 2014, 875–6). Through this research a database is gradually being produced that will enable these fabrics to be identified at other sites (Poulou-Papadimitriou and Nodarou 2014, 876–7). Future work at these and other sites, together with the aforementioned research program aimed at identifying local fabrics through a petrographic analysis, has much to offer in this respect and could shed light on the scale and frequency of the regional and intra-regional traffic of packaging containers. In this manner, Cretan fabrics recognized from sites like Hierapytna (Gallimore 2011, 324–5) could be matched to specific areas of production.

Another aspect that needs to be emphasized is that Cretan amphorae of the first Byzantine period were not limited to the



transportation of local wine, as was the case with their Roman predecessors, which transported the famous *passum* (Marangou-Lerat 1995, 13–24, 151–2). Given the adoption of globular/ovoid forms, particularly in the course of the 7th and 8th centuries AD, coupled with the diversion of types circulating simultaneously and a diminution in the dimensions and the capacities of these amphorae, it has been posited that these regional containers were destined to carry other products and could possibly have served interregionally even for various domestic uses (Portale and Romeo 2001, 390, 393; Yangaki 2005, 303–4; 2007, 770; Fabrini and Perna 2009, 132; Portale 2010, 932; 2014, 478, 480). This suggestion is strengthened if we consider that the bag-shaped Palestinian amphorae or Egyptian containers, which were the products of areas showing a long tradition in amphora production, are considered primarily but not exclusively as wine containers (for details, Pieri 2007, 303; Williams and Tomber 2007, 643). Given the diffusion of some Cretan types extra-regionally, it could also be suggested that wine was not the only product they carried to other regions of the eastern Mediterranean (Gallimore 2011, 478, 486–7). In fact, progress in the definition of the content/s of much more diffused types, like research already undertaken into the products packaged in LRA1 and LRA2 amphorae, is an issue which researchers are currently examining (Yangaki 2014, 89–103), and these results could in the future aid us in better understanding the mechanisms of exchange and the needs to which trade responded; it is intriguing, for example, that wine seems to have been the product *par excellence* transported in imported amphorae, given the principal content of local Cretan containers, which was also wine.

In conclusion, there is ample evidence pointing to Crete's participation in the vast and complicated network of Mediterranean trade contacts. From the 4th century onwards, this evidence reveals a shift towards the Aegean and the eastern Mediterranean rather than towards western areas, as in the earlier period, with each Cretan site having its own position in this network. Simultaneously, the production of local types flourished throughout the period in question. Nevertheless, further work needs to be done in order to understand better the variations from period to period, from site to site, and of imports compared to local products. Further publication of stratified archaeological contexts from Cretan sites is also required, together with a seriation of the existing data, in order to obtain a more refined image of Crete's economic role during the first Byzantine period. A better definition of the later types of the local production, mainly

those from the 8th and the 9th centuries, and concrete information on the production centres of the Cretan amphorae and their diffusion are of vital importance.

### **Lamps**

Thorough research on the types of lamps occurring on the island from the 4th century onwards (Kalokyris 1955, 324; Martin 1997a, 264–90; Sapouna 1998; Poulou-Papadimitriou 2000, 214–27; Vogt 2000, 94; Baldini and Parello 2001, 114–89; Hayes 2001, 452–3; Rendini 2004d, 199–208; 2004e, 336–40; Yangaki 2005, 219–41; Poulou-Papadimitriou 2008, 154; Francis 2010, 45; Albertocchi 2011b, 105–12; Gallimore 2011, 357–9) leads to two particular observations: the scarcity of imported lamps, and the abundance of information for the 6th, 7th, and 8th centuries compared with earlier periods. More in detail besides limited examples of lamps of the North African, Asia Minor (Fig. 14.12), and Syro-Palestinian types, which are mould-made, most of the lamps found on Crete are examples of local workshops and are wheel-made. In particular, data from Gortyn and Eleutherna show a percentage of around 5% for imported lamps compared to a high percentage of up to 95% for local products (Baldini and Parello 2001, 162; Yangaki 2005, 233; Albertocchi 2011b, 111). Of the imported types, a few North African lamps of forms *Atlante* VIII and *Atlante* X (Bonifay 2004, 358–416) have been found in Gortyn, the first dated from between the second half of the 4th and the end of the 5th century AD, and the second from the mid-5th until the mid-6th century (Baldini and Parello, 2001, 164–5; Rendini 2004e, 339). Two fragments of North African lamps have been published from Moni Odigitria (Francis 2010, 45, RP183) and from the Gournia area (Hayes and Kossyva 2012, 170).

‘Asia Minor’ type lamps occur occasionally in Eleutherna during the 7th century (Vogt 2000, 94, fig. 45, 1), in Gortyn during the 6th century (Belli-Pasqua and La Torre 1994–1995, 195, 198–9; Albertocchi 2011b, 109, fig. 30, a), and at Knossos in a deposit of the 7th century (Hayes 2001, 452–3, B70–B72). More common are Syro-Palestinian lamps, which present numerous variations. They are found at Gortyn (Baldini and Parello 2001, 166–7; Rendini 2004d, 206; Albertocchi 2011b, 109–10), where they have been dated from the 4th to the 6th centuries (Baldini and Parello 2001, 166–7), but they also date from the 6th–7th centuries (Albertocchi 2011b, 109–10), while those found in the cave of Amnisos have been dated to between the

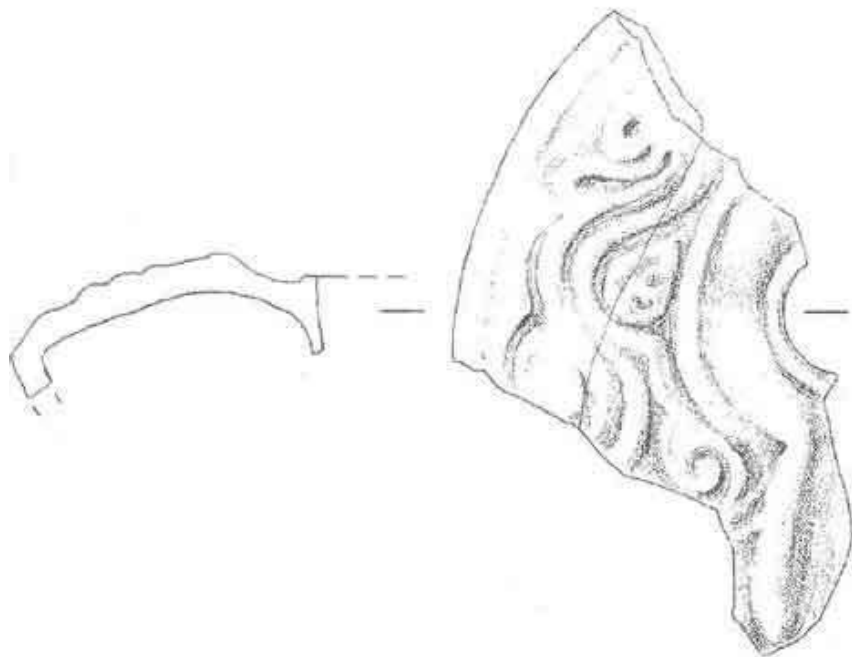
mid-7th and early 9th centuries (Poulou-Papadimitriou 2000, 222; 2003, 211–2). Of particular interest are rare examples of lamps from Gortyn dating from the 7th century, which resemble Hayes's lamp type 15 (Hayes 1992, 80, fig. 29, 15; Martin 1997a, 281, nos 44–5). A few lamps of the North African type are considered to be imitations of the original products and may be Cretan made, as shown by examples from Gortyn and Amnisos (Poulou-Papadimitriou 2000, 223; Baldini and Parello 2001, 164).

It should be noted that the island of Crete is characterized by an important production of lamps during the Roman period, as indicated by numerous examples of mould-made ivy-leaf type lamps dating from between the 1st and 3rd centuries AD, and well-known from Knossos (Catling and Catling 1992, 265–6), Gortyn (Baldini and Parello 2001, 115–8; Bonetto *et al.* 2010, 902, fig. 3), and Eleutherna (Spanou 2004, 203–4; 2012, 444–52). Furthermore, a flourishing Cretan production is implied for some of the numerous examples of mould-made lamps of the Broneer types XXV and XXVII (Baldini and Parello 2001, 144–60; Yangaki 2005, 219–21, 231–2; Gallimore 2011, 357–9), which were so common between the 1st and 3rd centuries.

During the first Byzantine period, however, the production of wheel-made lamps emerges little by little in forms both with and without a neck (Yangaki 2005, 232–5); in view of the scarce evidence for imported, mould-made lamps, these were the main objects used for lighting, along with other lamps made of glass or metal or also with candles. These wheel-made lamps witness their largest diffusion between the second half of the 6th and during the 7th centuries. In fact, a careful observation of the data shows that this revival of wheel-made lamps, which were common during the Hellenistic period, could have started during the 4th century AD, i.e., after the end of the production of Cretan ivy-leaf lamps, as indicated by two wheel-made lamps from Eleutherna that have analogies with other lamps outside Crete (Yangaki 2005, 236–8) (Pl. 36).

Small, round-bodied lamps with or without a disc with a large filling hole, no neck and, usually, a horizontal strip or punched knob handle or no handle at all have been found at Eleutherna (Vogt 2000, 94; Yangaki 2005, 236–8), Amnisos (Poulou-Papadimitriou 2000, 225–7, fig. 21), and Herakleion (Poulou-Papadimitriou 2008, 154, fig. 3), as well as at Panormo and Aghia Galini (Kalokyris 1955, 324, pl. 123, a; Yangaki 2005, 236, n. 1482); they seem to constitute the intermediate link towards the much more diffused wheel-made lamps

that were larger, had an oval-elongated body, and a high neck that is either cylindrical or gives the impression of a funnel around the central filling hole ('a fiaschetta' types, with several sub-forms, and 'ad alto collo') (Baldini and Parello 2001, 167–85; Yangaki 2005, 239–41; Bonetto *et al.* 2010, 902, fig. 3) (Fig. 14.13).



*Figure 14.12 Fragment of 'Asia-Minor' type of lamp, from Gortyn. From Belli Pasqua and La Torre 1994–1995, 199, fig. 28, 566, by permission from the Scuola Archeologica Italiana di Atene.*

The chronology of the small lamps fluctuates between the 4th and 6th centuries AD, with those from Herakleion dated to the end of the 6th–7th centuries (Poulou-Papadimitriou 2008, 154), and encompasses lamps with morphological variations (Poulou-Papadimitriou 2000, 227; Yangaki 2005, 238). The first of the two later, larger, wheel-made types is common from the second half of the 6th century and during the 7th century, while its presence in 8th century layers seems to reflect a continuation of production even into this period, although the possibility of residuality should also be considered (Baldini and Parello 2001, 169–70, 182).

The production of the second type seems to be limited between the second half of the 6th and the last years of the 7th century (Baldini and Parello 2001, 182; Albertocchi 2011b, 111), which makes it contemporary with the first type. The first of these two types was well

diffused across the island (Yangaki 2005, 239–41, with references; forthcoming, fig. 4) and constitutes the most common type of lamp for the 6th and 7th centuries. Among ‘a fiaschetta’ lamps, those with an incised star on their shoulder are considered to be products of a Cretan workshop (Baldini and Parello 2001, 168; Fiolitaki 2011, 100–1). A lamp found in Kenchreai bearing the same motif (Williams 1981, 87, no. 466, pl. 21, 24; Baldini and Parello 2001, 168 n. 65) could also have a Cretan provenience, while a less-refined version of a similar motif comes from a lamp found on the island of Thera (Gerousi 2010, 231 fig. 34). These wheel-made lamps, and in particular the ‘ad alto collo’ type, reveal analogies with M. Xanthopoulou’s type-3 copper or copper-alloy metal lamps, which were very common among other types of metal lamps circulating in the eastern Mediterranean, and which date from between the 5th and probably even the 7th century AD (Xanthopoulou 2010, 6–14, 100–62). Small, closed vessels in both glass and clay from the same period encountered on Crete and sites in mainland Greece share with ‘a fiaschetta’ lamps the tall, narrow neck with variations in the form of its rim (Yangaki, forthcoming). Thus, metal prototypes and other objects with a similar morphology must have played a role in the occurrence of these forms. Practical reasons like the storing of a larger quantity of fuel inside these lamps compared with other forms or earlier examples of wheel-made lamps, or the existence of the cylindrical neck to facilitate the filling of the lamp could offer possible explanations for the adoption of these forms (Yangaki 2005, 238).

The ample diffusion of these lamps on the island is not an isolated phenomenon, but represents a common occurrence of the group of wheel-made lamps with closed forms found in the Aegean region and the adjacent areas in Asia Minor during the 6th and, mainly, the 7th century (Yangaki, forthcoming). Nevertheless, the recognition of all these forms of wheel-made lamps, some of which have further sub-forms, that cover the period from the 4th until the 7th–8th centuries AD and in some cases are present in different chronological contexts at the same site, constitutes a unique case thus far, and an important case study that adds to and deepens our knowledge of wheel-made lamps, which were once considered to be isolated examples within a ceramic reality dominated by mould-made lamps. While the occurrence of wheel-made lamps on Crete either alongside imported lamp forms or as a substitute for them is paralleled in other parts of the eastern Mediterranean during the 6th–7th centuries, there is little evidence from other sites for the previous centuries. It is hoped that

future research in the Aegean or on mainland Greece will reveal additional material that proves that Crete does not constitute an isolated example in this respect.

A second characteristic is the dissimilarity of the evidence, since only a very small number of lamps, particularly mould-made examples, date from the 4th through to the 6th centuries, while there are numerous local examples of mould-made lamps from the 2nd and the 3rd centuries in addition to imported examples (Catling and Catling 1992, 302–3, L638–L649; Sapouna 1998, 108–16). No closed contexts of the 5th century containing an important quantity of clay lamps have to our knowledge been published, and it has thus not been possible to explore the types of lamps in use during that period, but one would expect to find some of these examples in later, better-illustrated contexts as indicators of residuality if there had been considerable imports of various types of mould-made lamps from this period. This is, however, not the case in the material published to date from Gortyn and Eleutherna, and one notices a lack of evidence in regard to the 4th and the 5th centuries in particular. Unpublished material from Sector II of Eleutherna further verifies the lack, or rarity, of lamp imports. Closed deposits from Eleutherna dating from the third quarter of the 4th century show that one mould-made type (Loeschcke's type VIIIA), to which a much earlier date is usually attributed, circulated on the island during this later period (Yangaki 2005, 225–7), continuing the long production of local examples of imported prototypes. Perhaps this element shows that, in specific cases, some forms of mould-made lamps could have circulated and been used much longer than previously believed. In the future, it would be of interest to test this hypothesis, particularly in relation to the lifespan of Cretan products of mould-made lamps of the Broneer types XXV and XXVII based on material from selected contexts.



*Figure 14.13 Wheel-made lamp (type 'a fiaschetta') of the 7th century AD, from Eleutherna, Sector I. Photo by author.*

What happens later on? It seems that, as Baldini has noted, the role of Crete is marginal with respect of the lamp trade (Baldini and Parello 2001, 162). Even during the 6th, 7th, and 8th centuries, when the evidence for lamps is ample, the limited information on imports comprises only a few examples of North African and mostly Syro-Palestinian lamps. The occurrence of these latter lamps should probably be connected with important imports of 'bag-shaped' amphorae during the 7th century and later on. Apart from this case, however, the rest of the evidence offers very limited data about imports, particularly during the 5th and 6th centuries. A possible explanation for this lack of evidence may derive from the data provided by another material for lamps, namely glass. It may be that glass lamps catered to the needs of the inhabitants for illumination. Evidence of glass lamps from Gortyn does not contradict such a hypothesis, since these are quite common during this period (De

Matteis and De Tommaso 2001, 198–203, 234–6). Together with the small wheel-made lamps, they could have catered to the demand for lighting devices. Glass lamps continued to be used even later on, in parallel with the more diffused, larger wheel-made lamps of the 6th and 7th centuries AD.

## Conclusions

Data from both urban and rural sites are starting to accumulate and now permit major advances to be made in our knowledge of the types of wares used on the island between the 4th and 8th centuries AD (Fig. 14.1). Moreover, analytical techniques and inter-disciplinary studies have begun to give us more precise knowledge about the provenience of some of these wares. As a result, we are now in a position to state with certainty in various cases whether pottery is imported or a local product. Under the influence of current trends in ceramic studies, scholars have now begun to study the pottery of Byzantine Crete not only to date archaeological contexts and to determine cultural and economic interactions, but also to define how people lived (Zanini 2009, 44–61; Zanini and Costa 2011, 40–3).

What is undisputable is that the amount and importance of the data, particularly for the 7th and 8th centuries, reveals a promising picture of trade networks and makes the island a fundamental reference point for anyone wishing to penetrate deeper into this transitional period in Byzantine history. A continuous ceramic sequence shows that there is no gap at the end of the 7th century; on the contrary, much of the evidence dates from this period, even though it reflects a gradual change in the pottery produced and used during this period compared with previous centuries.

In fact, during the first three centuries under examination here, the characteristics of the ceramic products (good quality, carefully worked, standardized vessels) imply large-scale manufacturing by well-organized workshops either in the island's interior or on its coasts. During the course of the 6th and mainly the 7th centuries, there was a renewal of preferences and technology on the island, as expressed by the production of painted and glazed pottery, respectively. The first category ('ceramica sovradipinta') witnessed a prolonged period of production, even during the course of the 8th century, with a multitude of forms and decorations. This observation, in fact, together with the continuous production of amphorae, which now adopt a globular/ovoid form and show traces of standardization



under types like TRC12 (Pl. 35, b), supports the maintenance of some form of organized pottery production at sites, including Gortyn, where painted pottery was manufactured. However, a lack in standardization is evident at minor sites like Eleutherna from the last quarter of the 7th century onwards, with the manufacture of amphora-type vessels with variations in details of their form – they were destined for domestic use and not only for the transportation of goods – with a reduction in the diversification of the forms circulating at the same time, and the manufacture of more coarsely-made vessels with a different technique, namely the cooking wares produced with the slow-turned wheel (Yangaki 2005, 284–5). These are markers of a gradual change that possibly characterizes various parts of the island and should be connected with the emergence of household production, either in the form of purely domestic production or of a ‘household industry’ (Peacock 1982, 17–23) that replaced larger specialized workshops and did not function on a permanent basis (Yangaki 2005, 284–5). This phenomenon has been interpreted as an expression of a further ruralization of communities, which were characterized by a higher degree for selfsufficiency (Yangaki 2005, 285). Similar phenomena occur in Cyprus (Rautman 1998, 81–104) and other areas of the Mediterranean (Arthur 2007), although it has been suggested that this could in some cases reflect a change in taste in regard to well-made pottery (Arthur 2007, 166).

In the case of Crete, it seems more probable that this is a marker of a transition towards the changed social conditions of the early Middle Ages, which still have to be better defined. Changes in ceramic assemblages are undeniably connected with transformations in the living conditions, and the reasons behind the appearance and co-existence of the different pottery trends on Crete from the middle of the 7th century should be sought in the historical, social and cultural transformations occurring on the island (Tsougarakis 1988, 22–9; 1998, 342; Tsougarakis and Angelomatis-Tsougarakis 2004, 362), which did not leave unaffected the urban settlements of the islands, although these have retained their urban character, albeit transformed, longer than previously supposed (Tsigonaki 2007, 263–97; 2012, 73–100). It is of importance that the advances in the study of the island’s pottery dating from this transitional period and deriving from various settlements work in a complementary way to the interpretation of other sources (historical or other archaeological evidence) so as to offer, in the future, a better evaluation and understanding of these settlements’ characteristics and the emerging

urban character of some of them.

This evidence seems to align Crete with other regions of the eastern Mediterranean, where similar changes were taking place around the same period (Arthur 2007, 171, 173, 178, 180). At the dawn of the 21st century, given the accumulation of such data, an insider may start to wonder whether there is much more light shed on what were called until so recently the 'Dark Ages' of Byzantium than on the ceramic material of 5th century Crete, which still remains in the shadows, given the lack – besides some evidence on contexts from Gortyn, presented in summary (Albertocchi and Rizzo 2000, sporadically) – of numerous, specific, well-dated, and analytically published and discussed deposits, with the exception, for example, of a well-preserved deposit of the last quarter of the 5th century from Knossos (Forster 2009, 202–9, 234).

The above analysis shows that Crete is certainly no *terra ignota* in terms of the ceramic material culture from the first Byzantine period. From the same analysis, Gortyn seems, even from a ceramological point of view, to have been the primary Cretan city in the Aegean and eastern Mediterranean exchange network. Other inland sites with a rural character, like Eleutherna, seem to have developed characteristics of their own and reveal a significant degree of self-sufficiency, as demonstrated by the numerous local ceramic products that follow the 'Cretan' tradition of ceramic wares and/or adjust some of their products to imported forms and/or produce completely new and 'fashionable' ceramics, such as glazed pottery. Perhaps the key to a better understanding of how Cretan sites interacted with inland but also outland areas lies in the publication of pottery from Cretan coastal sites; in this respect, the information derived so far from Hierapytna, Pseira, and Itanos would seem to be quite encouraging.

Nevertheless, as we hope the above analysis has made clear, the data that are available or are being amassed need to be further refined, by mapping the function and character of different sites over time, by comparing specific contexts of one site with contemporary contexts from the same or another site (Zanini 2009, 49–62; Panero 2010, 912, figs 2–4), by acquiring sophisticated stratigraphic sequences and a better knowledge of the character of excavated deposits (Peña 2007, 337–9), and by further establishing the provenience of specific wares. Special interest should be given to the publication of closed deposits, such as those related to the earthquake of AD 365 (Stiros 2001, 545–62; Yangaki 2005, 43–9, 253–67), since

they offer well-dated and important material, as is shown by the evidence from Eleutherna, which could be used as a solid basis for further comparison with earlier or later contexts. Only in this way can a more thorough interpretation of Crete's position and role in international and regional trade, but also of the character of specific Cretan sites and their degree of self-sufficiency or interdependence in terms of particular goods be possible.

To this end, one aspect which should be taken into consideration is that some of the ceramic vessels could have had a much more complicated 'use-life,' which may also have been longer, at least in their consumption sites, and which makes it harder to date these objects (Peña 2007, 6–11, 61–119, 209); such concerns have been expressed in the case of material from the so-called Byzantine Quarter in Gortyn (Zanini and Costa 2011, 36–43). It has also been noted that Kapitän II amphorae exist at Gortyn in significant numbers in contexts of the 5th and even of the 6th centuries and later (Romeo and Portale 2004, 967), which is to say some centuries later than the range of circulation generally ascribed to the type. Although it has been recently suggested that their high percentage in these centuries can be explained in terms of residuality, it has also been proposed that this type could have continued to circulate even during the first years of the 5th century AD (Portale 2010, 932; 2011, 156). In such cases, the possibility of a re-use of amphorae as storage containers for various products (Type B re-use: Peña 2007, 124–5) could offer an explanation as to the continuation of their 'use-life' (Lawall 2011, 45). Similarly, at Eleutherna, some examples of this type must have circulated during the 5th century (Yangaki 2005, 198). Outside Crete, the material from Ostia evokes similar remarks (Panella 1986, 627).

Furthermore, some dishes of Çandarlı form 4 found in Eleutherna (Yangaki 2005, 103–4) and Mytilene (Charitonidis 1961, 209–10) come from contexts of the third and second quarter of the 4th century, respectively, when the date generally ascribed to this form is the 3rd century (Hayes 1972, 322). Researchers usually interpret similar data as evidence of residuality, but it may be that the 'use-life' of some objects could have been somewhat longer in specific cases. This seems to be the case for the examples of Çandarlı ware, since they belong to complete or almost complete vessels and not to small-sized sherds, and thus do not constitute isolated examples. In the future, a much more detailed typo-chronological seriation of ceramic wares will permit a better definition of what we might term the 'active' and

‘passive’ life of each category of pottery, meaning the life span of its commercialization/circulation and that of its use/non-use (‘non-use’ denotes the disuse of an artefact that continues, however, to be part of the household artefacts of an excavated unit, not having been deliberately discarded by its final owner) (Zanini and Costa 2011, 37).

While the classification of pottery from Crete has been achieved to a satisfactory degree, work is still required in the spheres of methodology and interpretation, if the study of pottery is to offer a subtle and more detailed and realistic understanding of the island’s society.

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## Afterword: putting Crete on the Roman map

### *Anna Kouremenos*

Thirty-two years have passed since the publication on Ian Sanders' *Roman Crete: An Archaeological Survey and Gazetteer of late Hellenistic, Roman and early Byzantine Crete*. During this time, research on Roman Crete has increased dramatically and, judging by current trends, the field looks to expand even further. This edited volume presented only a fraction of the exciting research currently being carried out by international scholars, but we published it with the aim of putting Crete on the map of scholarship dealing with the Roman Empire and to give an impetus for further research. The breadth of the papers in this volume is an indication not only of Crete's increasing popularity among Romanists but also of the island's vast archaeological potential, supported by a great number of excavations and surveys as well as by the re-evaluation of older material during the past three decades.

**François Chevrolier** looked at the relationship between the two halves of the province of *Creta et Cyrene*, drawing together material from historical, numismatic, and epigraphic sources to discern why and when the two regions were united into one province. He suggested that during the last century BC, Crete and Cyrenaica were united into a single province because each area was too small and perhaps too poor to be economically viable on its own. Another reason may have been Rome's desire to control the Libyan Sea against pirates that had made Crete a base for their activities. Furthermore, while epigraphy shows that there were Cretans attested in Cyrenaica and Cyrenaicans known on Crete, it appears that the two halves of the province seem to have functioned as separate entities during imperial times rather than as one united province.

**Martha Bowsky** explored the subject of Italian Sigillata stamps as an indicator of cultural identity. Italian Sigillata appears on Crete not only at major centers from west to east, at Aptera, Eleutherna, and Hierapytna, but also at minor sites such as Hamalevri, Kommos, Lato pros Kamara, and Viannos and has been found in field surveys across the island. Bowsky argued that the island-wide distribution of this ceramic type is not necessarily indicative of cultural diffusion or

colonial domination but of 'self-Romanization,' as local elite tastes converged with Roman ones and brought about an integration into a Roman cultural *koine*.

**Anna Kouremenos** traced the development of the *labrys* motif from the Minoan–Mycenaean period to Roman times, with special attention given to four categories of media depicting the double axe during the Roman period. While the *labrys* was an old Cretan symbol and has long been associated with the island, I argued that, in the Roman period, its appearance in Cretan contexts was a result of a shifting perception of the double axe as a symbol of good fortune rather than an attempt to re-establish an old religious symbol in Crete.

**Jennifer Moody** discussed the changing climate in the eastern Mediterranean region in antiquity and showed that Crete under Roman rule was hotter and wetter than it is today. By analyzing lake and cave deposits as well as marine and terrestrial cores, she argued that there was a striking aridity event that began in the 2nd century AD and peaked in the 3rd and early 4th centuries, which had significant ramifications for agriculture and productivity on Crete and elsewhere in the eastern Mediterranean region.

**Jane E. Francis's** paper demonstrated that apiculture played an important role in the Cretan economy. She focused on how ceramic beehives were produced at a large number of centres across the island and their movement from kiln sites to their places of use in urban centers and rural areas. Through an examination of elements like output, hive construction, and site type and location, Francis assessed the role of apiculture in Crete's local, regional, and island-wide commercial enterprises.

**Michael Milidakis** and **Christina Papadaki** discussed a table support found in an uncertain provenience at Kissamos. The marble slab is decorated in relief with a large boar in front of a tree. The iconography and style of the relief suggest that this was a typical type of table-support during Roman imperial times and probably depicts the Calydonian Boar Hunt. Representations of boar hunting in Greek and Roman art and literature were also investigated, with a particular focus on the god Adonis.

**Vanna Niniou-Kindeli** and **Nikos Chatzidakis** focused on the recent excavations of the theatre at Aptera and discussed aspects of theatre architecture and engineering. Despite the fact that some seats were robbed from the theatre in the 20th century in order to serve as lime-production material, enough survives intact to allow for a full

reconstruction. The original theatre is of late Hellenistic date and was extensively modified during the 1st–2nd AD and again in the later Roman period.

**Enzo Lippolis** offered a general view of the archaeology of Roman Gortyn, a city that has been the focus of over 100 years of excavation by the Scuola Italiana di Atene. He focused on the city's urban profile and drew attention to three building phases – Augustan, Trajanic to Severan, and late antique. As the provincial capital, Gortyn was the site of continued building activity and renovation, a trait that continued unabated well into the early Byzantine period.

**Pavlina Karanastasi** presented an overview of Roman sculpture on Crete, with a focus on the geographic distribution of imperial portraiture in urban centers on the island. She argues that Roman portraits were prevalent on Crete since the 1st century BC and reached a peak in the 2nd century AD, but declined steadily afterward, with few examples known that can be dated to the 4th century AD. She also documented some of the ideal statuary from Crete, which often replicates types known from other ancient sites.

**Scott Gallimore** re-assessed Crete's economic role in the Roman period by examining factors such as the development of free-market exchange, the economic relationship between Crete and Cyrenaica, and the variety of goods exported from the island. He evaluated the transformation of Crete's economic focus after the 3rd century AD by demonstrating that the island shifted its exports to the eastern Mediterranean. He argued that finds of Cretan amphorae at numerous sites along the Black Sea suggest that Crete began participating in the military *annona* by supplying armies stationed in that region, indicating that the island was an important contributor to pan-Mediterranean exchange.

**George W. M. Harrison's** paper brought us into the world of performance and popular entertainment in Crete during the 3rd and 4th centuries AD. His paper challenged the perception of decline by re-assessing the role of economic and cultural activities that took place on the island both during and after the economic crisis of the 3rd century AD. Harrison suggested that Cretan cities were blessed with the types of civic infrastructure that allowed for the physical well-being of its citizens despite the economic crisis and religious persecutions that took place in Crete and across the empire at that time.

**Anastasia Yangaki** looked at the various types of ceramic wares used

on the island in late antiquity and shed light on economic and social issues at specific sites such as Gortyn, Eleutherna, and the islet of Pseira. From the 3rd–5th centuries AD, workshops both in the island's interior and on its coasts indicate large-scale manufacturing. During the 6th century AD, there was a transformation of taste and technology, as expressed by the production of painted and glazed pottery respectively. This change has been linked to historical, social, and cultural transformations that occurred on the island after the 6th century AD, namely Arab raids, natural disasters such as earthquakes, and the shift towards rural settlements brought about by an economic recession.

This eclectic mix of papers is a testament to the vast array of material available for study on Crete. But where do we go from here?

The potential for further work on Crete is immense. New discoveries are made every year and older material is being re-evaluated. One of the most important areas for further research is the late-Hellenistic/early Roman period, for which we have very limited knowledge. We know from historical sources (Polybius, Cassius Dio) that Rome was a frequent meddler in Cretan affairs one century before the island's conquest by Q. Caecilius Metellus in 67 BC. We have an account in Cassius Dio (36.18–19) about how four Cretan cities were besieged by the Roman army in 69–67 BC: the Romans put an end to piratical activities in Phalasarna, laid siege to the city, and blocked off its harbor; at Eleutherna, strong resistance by the locals led the army to capture the city by pouring vinegar on its mud-brick walls in order to make them brittle and then set them on fire; at Hierapytna, the Roman offensive led the forces of resistance to disperse and the city's entire fleet was wrecked; and Knossos, the leading center of resistance, was besieged, with the leaders of the resistance sent to Rome to be paraded in Metellus' triumph. What we do not know is what events transpired after Crete passed into Roman hands. What happened during the first few decades of Roman rule? This period is crucial in our understanding of Roman Crete because it represents the first two generations living under a new social system, which includes emerging elites and the introduction of a new lifestyle which favoured individual ownership of land over communal ownership (Chaniotis 2004; Kouremenos, forthcoming). What types of houses did this new social order produce in the first century BC? What was urban architecture and infrastructure like before the Augustan period on Crete?



Maritime archaeology on Crete is also a favourable point of enquiry. Research conducted on the harbour town of Phalasarna (Hadjidaki and Frost 1989; Hadjidaki 1996) has brought some light on its destruction by the Romans. More recently, the Roman and late-antique shipwrecks discovered near the islet of Dia, 15 km north of Herakleion, and the area between Kissamos and the island of Antikythera by members of the Woods Hole Oceanographic Institute and the Hellenic Ephorate of Underwater Antiquities are beginning to illuminate the archaeological material that lies beneath the sea. Surely more shipwrecks in the Cretan and Libyan seas are awaiting discovery. Archaeoseismology is another promising area of research with much potential for further work. The earthquake of AD 365 that destroyed several Cretan cities and produced an uplift of 9 m in the west part of the island has been documented by ancient sources and confirmed by modern archaeoseismologic research (Stiros and Papageorgiou 2001; Markoulaki *et al.* 2004; Stiros 2010; Stefanakis 2010). What is less clear is the damage produced by two less well-documented earthquakes, one occurring in c. AD 272 and another during the reign of Nero in AD 66. We know that the latter earthquake produced severe damage to Knossos, since a fragment of the 4th century AD writer Lucius Septimius preserved on papyrus states that this same earthquake was responsible for unsealing and damaging several tombs at Knossos, one of which contained inscriptions of an unknown language on bark. If we can accurately date material from the 1st and 3rd centuries AD, we may be able to derive more information about the damages produced by these two lesser-studied seismic events.

The art of Roman Crete is also a lucrative point of research. Although studies on sculptural assemblages (Romeo and Portale 1998; Lagogianni-Georgakarakos 2002; Stefanidou-Tiveriou *et al.* 2012; Karanastasi 2012), mosaics (Markoulaki 2011; Sweetman 2013), and lamps (Sapouna 1998) have been published, the number of unpublished sculptures and portable works of art in museums and storage rooms on the island is astounding. The rich corpus of sculpture in the Archaeological Museum of Chania alone, some of which is currently unpublished, would add immensely to our knowledge of Roman sculpture in Greece.

Our aim in producing this volume has been to present current research being conducted on Crete and to open up the field for further inquiry. It is encouraging that scholars in different institutions around the world are focusing on various aspects of the archaeology of Roman

Crete which only three decades ago was nearly uncharted territory. With this volume, we hope to put Crete on the Roman map so it can take its rightful place as a rewarding area for further studies of the Roman period.

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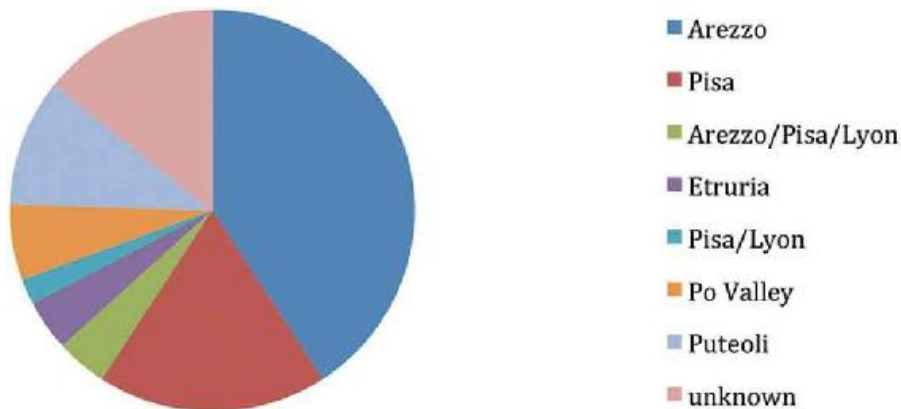
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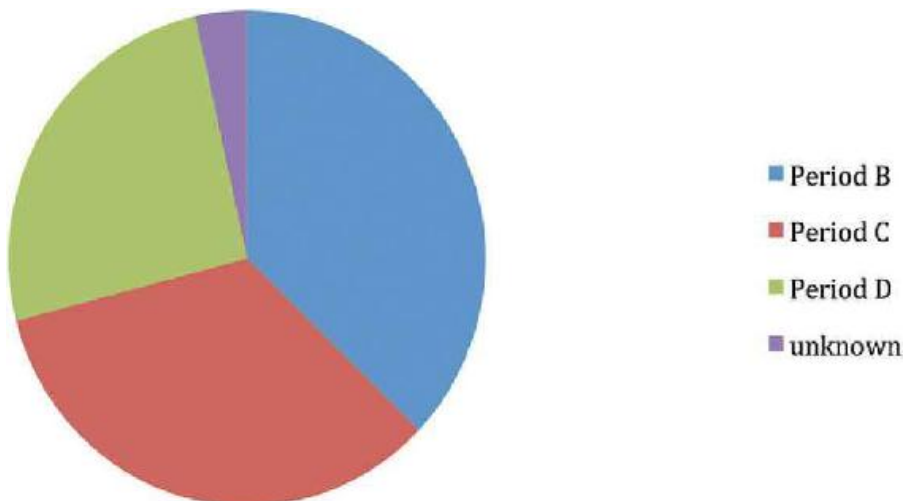
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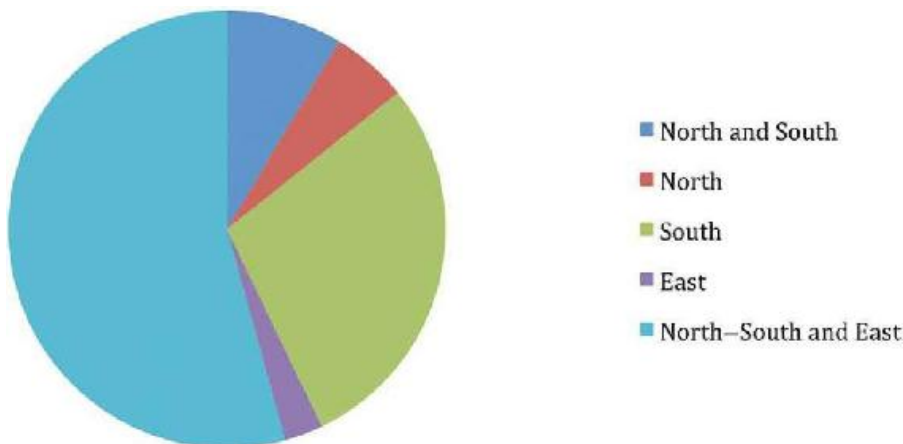
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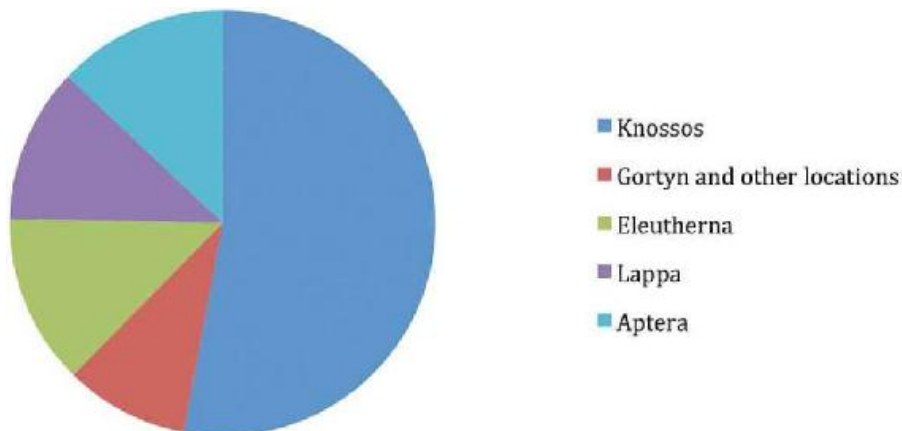
*Plate 1 Italian Sigillata stamps: provenience profile for Knossos.*



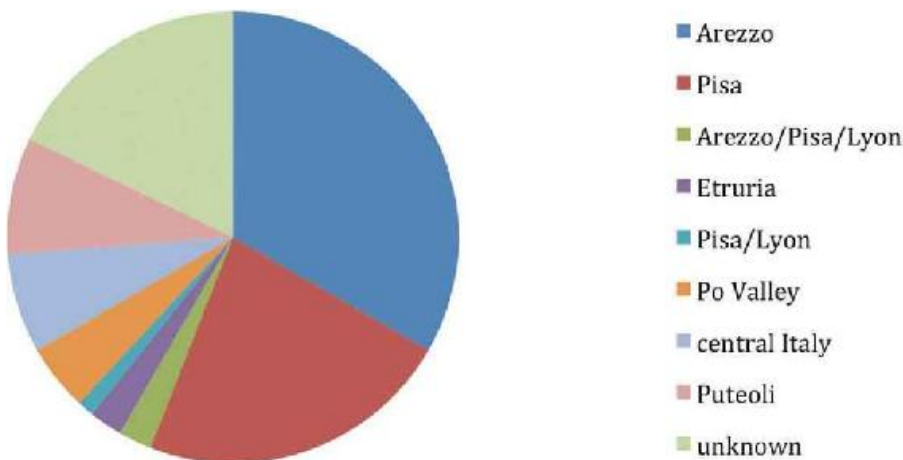
*Plate 2 Italian Sigillata stamps: chronological profile for Knossos.*



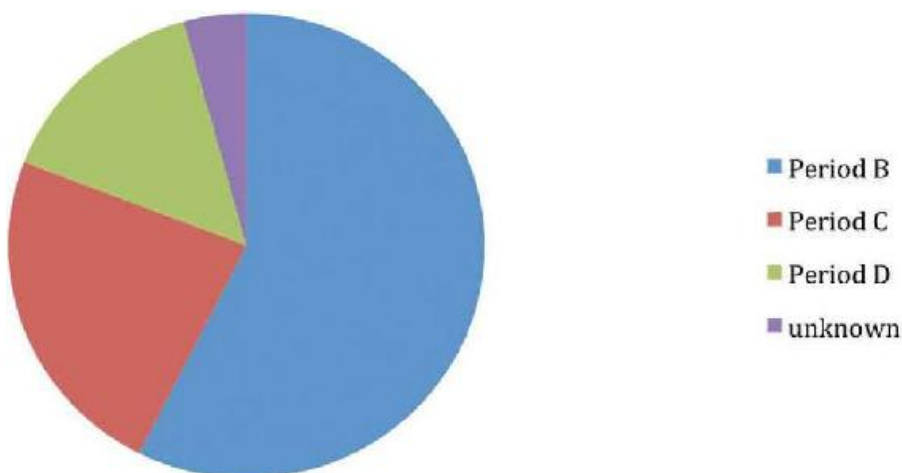
*Plate 3 Italian Sigillata stamps: distribution patterns for Knossos in the Greek East.*



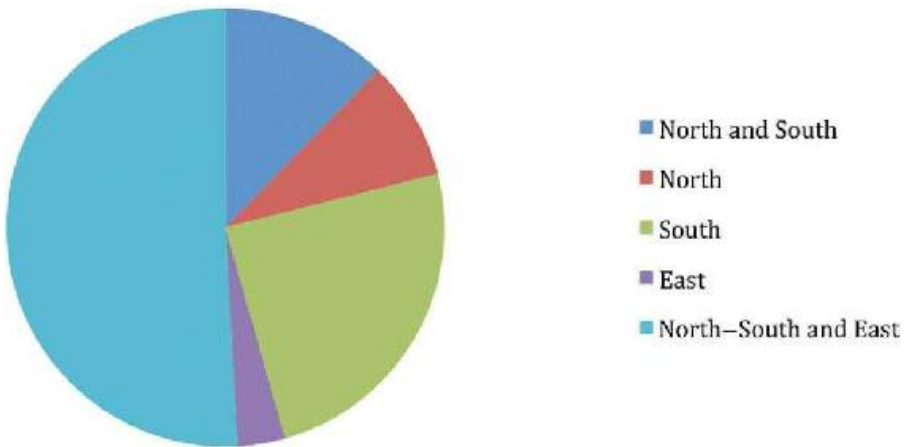
*Plate 4 Italian Sigillata stamps: number of potters attested across Crete.*



*Plate 5 Italian Sigillata stamps: provenience profile for Crete.*



*Plate 6 Italian Sigillata stamps: chronological profile for Crete.*



*Plate 7 Italian Sigillata stamps: distribution patterns for Crete in the Greek East.*



*Plate 8 Detail of Athenian black-figure kylix by Phrynos depicting the birth of Athena from the head of Zeus after Hephaestus split open the god's head with a double axe, 550–540 BC (London, British Museum B 424). From [www.goddess-athena.org](http://www.goddess-athena.org), by permission of Roy George.*



*Plate 9 Pithos jar depicting double axes, from Knossos depicting, dated to the First Palace Period, 1900–1700 BC (Archaeological Museum of Herakleion). Photo by I. Sakellarakis.*





*Plate 10 Miniature votive gold double axes, from a cave at Arkalochori, dated to the Late Minoan IA period (Archaeological Museum of Herakleion). Photo by I. Sakellarakis.*



*Plate 11 Wall painting showing a hunting scene with a man (Zalmoxis?) wielding a double axe, from a Thracian tomb at Alexandrovo, Bulgaria, early 4th century BC. From Weber and McBride 2001, 19, by permission of Christopher Webber.*



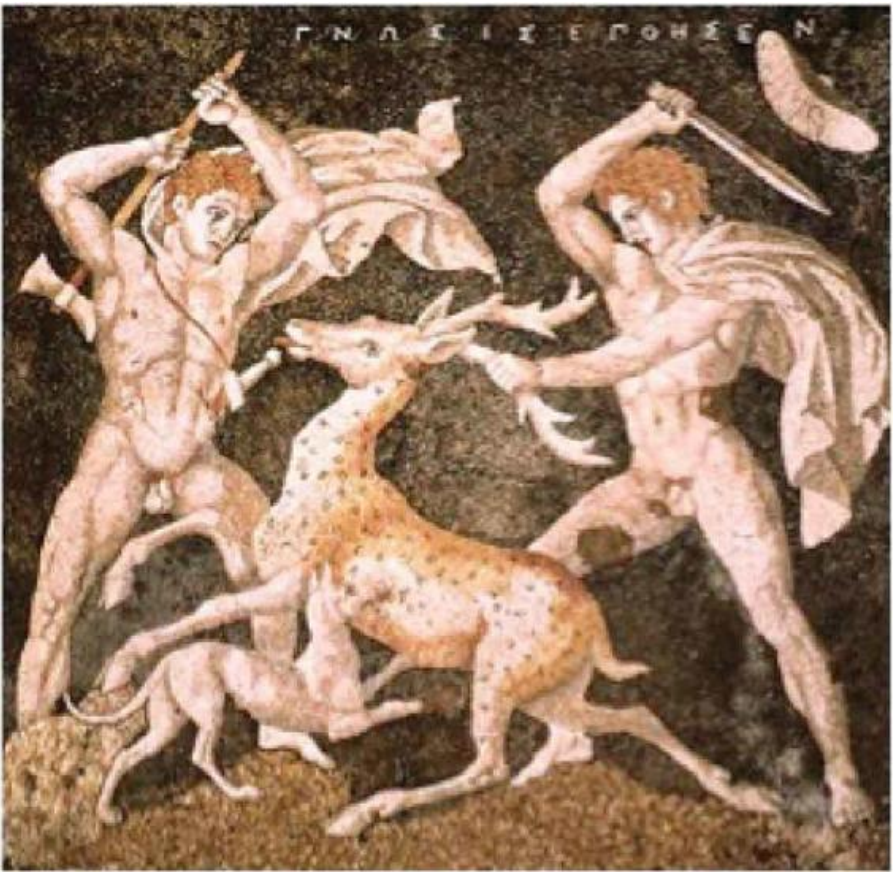


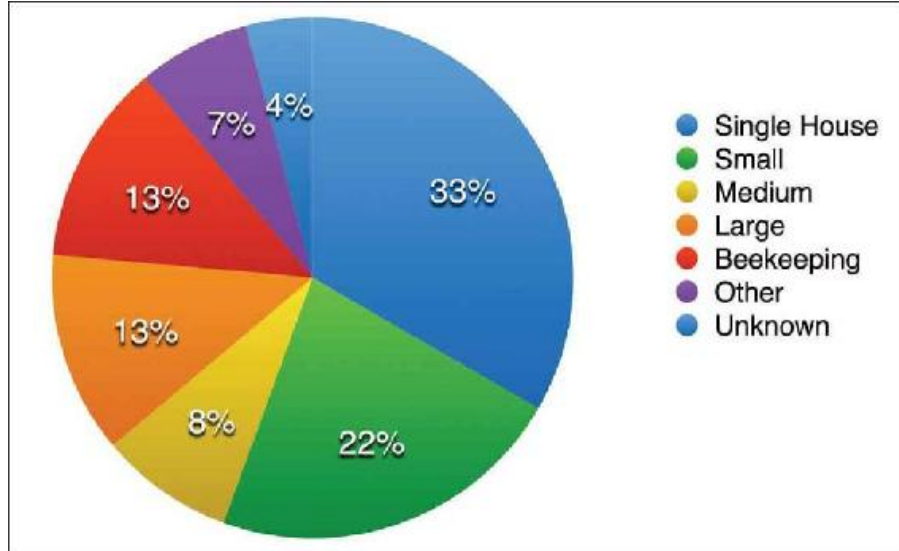
Plate 12 Stag-hunt mosaic by Gnosis, from Pella, 'House of the Rape of Helen,' c. 300 BC. From Lydakis 2004, 213, by permission of Stelios Lydakis.



Plate 13 Mosaic depicting Pasiphaë, Daedalus, and Icarus, with the double axe on bottom right, from Zeugma, 'House of Poseidon,' 2nd–3rd century AD (Gaziantep, Archaeological Museum). From Önal 2002, 16, by permission of Mehmet Önal.



Plate 14 Sphakia Survey Project: assemblage of beekeeping fragments. Photo by author.



*Plate 15 Sphakia Survey Project: distribution of beekeeping site types in Sphakia*





*Plate 16 Male portrait head, from Lappa/Argyroupoulis (Archaeological Museum of Rethymnon, Λ 4164). Photo by G. Vdokakis, by permission of E. Gavrilaki, KE' Ephorate of Prehistoric and Classical Antiquities.*



*Plate 17 Table support embedded above the lintel of the church of Aghios Georgios in Fodele (Crete). Photo by E. Moraitaki, Archive of the Institute of Mediterranean Studies, Rethymnon.*



*Plate 18 Fragment of a Neo-Attic calyx krater, from Eleutherna (Archaeological Museum of Rethymnon). Photo by E. Moraitaki, by permission of N. Fiolitaki, 28 Ephorate of Byzantine Antiquities.*





*Plate 19 Aphrodite statue, variant of the Louvre-Naples type, from Lappa/Argyroupoulis (Archaeological Museum of Rethymnon). Photo by E. Moraitaki, by permission of KE' Ephorate of Prehistoric and Classical Antiquities.*





*Plate 20 Cuirass statue of Hadrian, from Kissamos (Archaeological Museum of Kissamos). Photo by E. Eliadis.*



Plate 21 Bronze portrait statue of a youth from Hierapytna (Archaeological Museum of Herakleion). @ TAPI, Archaeological Receipts Fund.

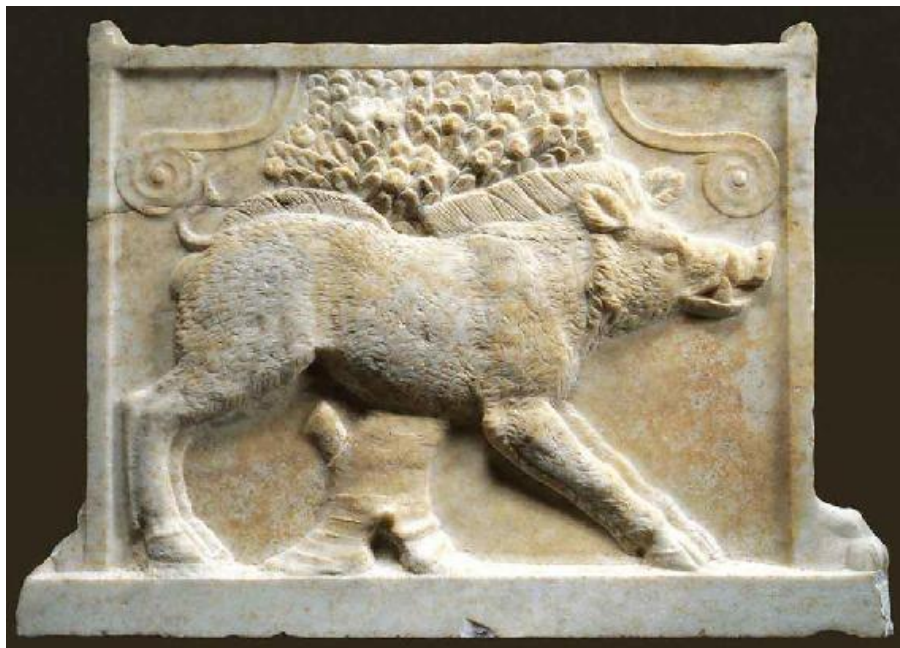


Plate 22 The table-support (Kissamos, Archaeological Museum, Α199). Photo by H. Heliades, © Hellenic Ministry of Culture and Sports/ Archaeological Receipts Fund.



Plate 23 Sarcophagus (Athens, National Archaeological Museum, Α1186). Photo by G. Patrikianos, © Hellenic Ministry of Culture and Sports/





*Plate 24 Aerial view of Pythion: 1. cella; 2. pronaos; 3. paved path; 4. altar; 5. west road; 6. north road. Photo by author.*

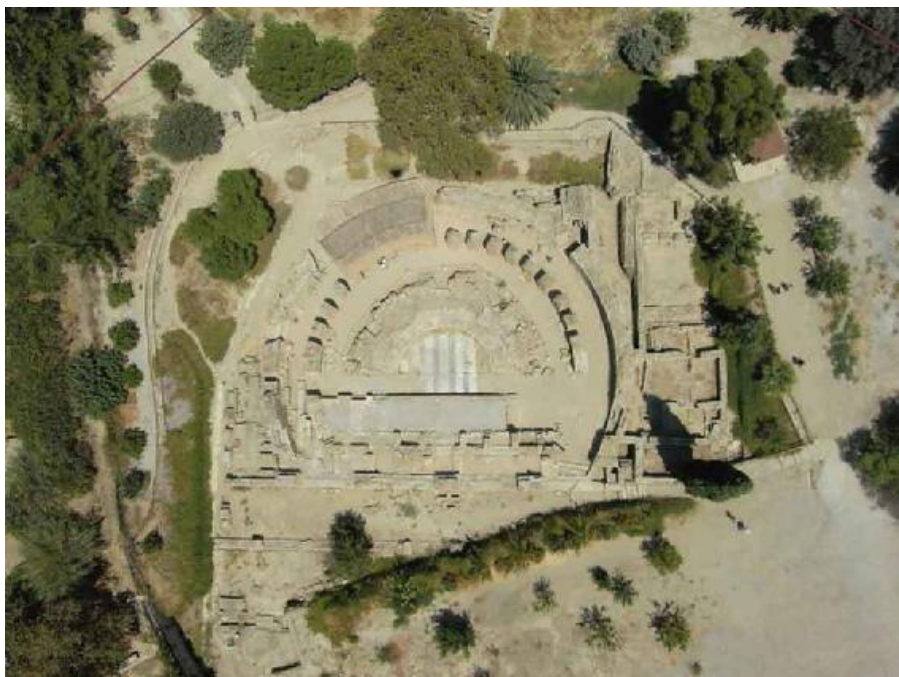


*Plate 25 Aerial view of the baths of the Praetorium: 1. apodyterium; 2. triconch; 3. frigidarium I; 4. frigidarium II; 5–6: tepidaria; 7. calidarium;*

8. palaestra; 9. west road; 10 north road. Photo by author.

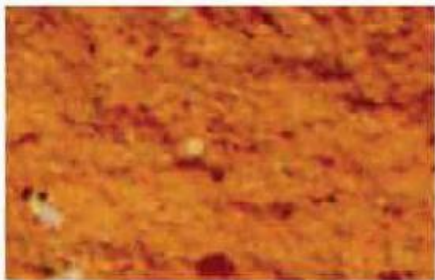


*Plate 26 Aerial view of the temple B: 1. cella; 2. pronaos; 3. altar; 4. paved square. Photo by author.*



*Plate 27 Aerial view of the Agora odeion/bouleuterion. Photo by author.*





*a*



*b*



*c*



*d*



*e*

*Plate 28 A selection of macroscopic views of ceramic fabrics attributed to Cretan productions. Photos by author (a–c), from Moody et al. 2003, pl. B, d, f (d, e).*



*Plate 29 ARS plate, form 50B, from Eleutherna, Sector I. Photo by author.*



Plate 30 Fragments of 'ceramica sovradipinta,' from Gortyn. From Belli-Pasqua and La Torre 1994–1995, 166, fig. 18, by permission of the Scuola Archeologica Italiana di Atene (a). Fragments of 'Glazed White Ware I,' from Gortyn. © Università di Siena. GQB, <http://www.gortinabizantina.it/wp-content/uploads/2014/03/DSCN2756.png> (b).

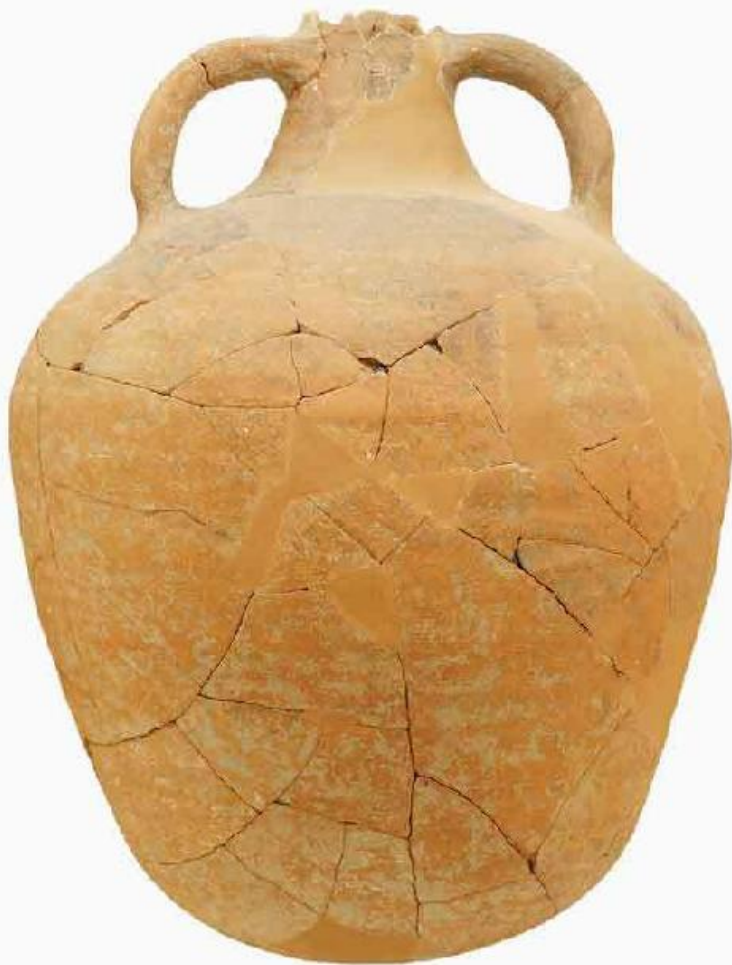


Plate 31 Small jug, from Eleutherna, Sector II. Photo © University of Crete, Excavations at Eleutherna, Sector II (a). Flagon, from Eleutherna, Sector II. Photo © University of Crete, Excavations at Eleutherna, Sector II (b).





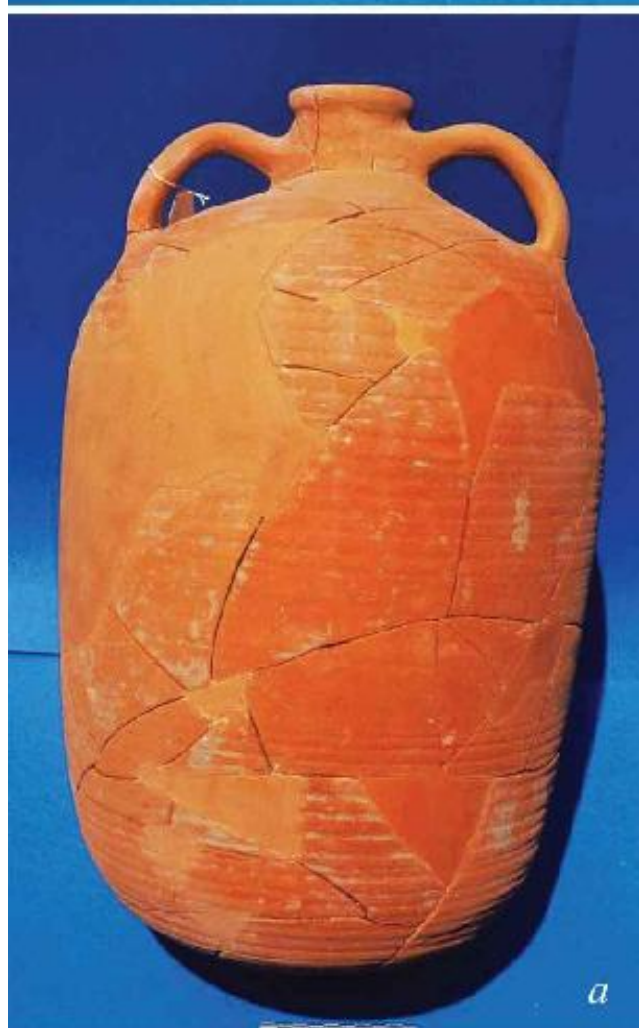
*Plate 32 Beehive, from Eleutherna, Sector I. Photo by author. From Yangaki 2005, 48, no. 61, fig. 61, a, pl. vi, 3.*



*Plate 33 Globular amphora, from Eleutherna, Sector II. From Yangaki 2005, 90, no. 513, 218, pl. xxiii, 1. Photo © University of Crete, Excavations at Eleutherna, Sector II.*



*Plate 34 Cretan amphora TRC9 type, from Eleutherna, Sector II. From Yangaki 2005, 90, no. 507, 192–3, pl. xxii, 8. Photo © University of Crete, Excavations at Eleutherna, Sector II.*



*Plate 35 Cretan amphora MRC2b type, from Eleutherna, Sector I. Photo by author, from Yangaki 2005, 56, no. 131, 186–8, pl. XI, 6 (a). Cretan amphora TRC12 type, from Eleutherna, Sector II. Photo by author, from Yangaki 2005, 95, no. 554, 195–6, pl. XXIII, 6 (b).*



*Plate 36 Wheel-made lamp of the 4th century AD, from Eleutherna, Sector I. From Yangaki 2005, 236–9, pl. xxvi, 6.*